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ABSTRACT

Part 1 of this report reviews previous research, which has focused on the prevalence and sources of teacher stress more than on coping strategies. While part 2 outlines the study's scope and method, parts 3 and 4 give the results of surveys of principals and teachers in schools of the Wellington (New Zealand) Education Board. Surveys of principals contain background information questionnaires, written interviews, and stress checklists. Surveys of class teachers contain background information questionnaires, stress inventories, and questionnaires on "satisfaction with teaching" and general health. Of those surveyed, 40 principals (95 percent) and 296 teachers (82 percent) responded. Survey results indicate the need for inservice courses to help principals deal with such frequent sources of stress as time management and disagreements with colleagues. While only one in twelve teachers responding found teaching very or extremely stressful, nearly twice as many reported health problems in 1981-82 as in 1962. Results further indicate that teachers' relations with children and colleagues are a high source of both stress and satisfaction. Appendixes include copies of the survey questionnaires used in the study. (JBM)

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TEACHERS AND STRESS

DAVID GALLOWAY

WITH FAY PANCKHURST AND KATHLEEN BOSWELL

Final report of work carried out by the Stress in Teaching Unit, Department of Education, Victoria University of Wellington, January 1981 - May 1982.

Under contract to the New Zealand Educational Institute, with financial assistance from the New Zealand Mental Health Foundation.

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ABSTRACT

The research described in this report was based in the Education Department at Victoria University, and took place from January 1981 - May 1982. Following a review of the literature, separate surveys were planned for primary school principals and for class teachers. A sample of schools in the Wellington Education Board was selected for study. Forty principals and 296 class teachers co-operated in the research, representing response rates of 95 per cent and 82 per cent respectively.

Questionnaire results and interviews with principals both showed that they experience stress from a wide range of sources. Problems mentioned with particular frequency were organisation and management of time, and tension in their interaction with other teachers in the school. Principals of larger schools and schools in disadvantaged areas reported more stress than principals of smaller schools. About one in twelve class teachers reported finding teaching very stressful or extremely stressful. Forty four per cent reported symptoms that placed them at risk of minor psychiatric disorder. Nearly twice as many teachers reported health problems as in 1962. Reported absences from work have also increased since then. The results suggest that feelings of stress and one day absences from work are closely related. Conditions of employment were frequently reported sources of stress. Within the school, children's progress and behaviour were important sources. In contrast, relationships with children and with colleagues were highly rated sources of satisfaction. A school's zone and its ethnic grouping were strongly related both to stress and to satisfaction. The results are discussed in the light of possible implications for policy.

AUTHOR'S NOTE

The research described in this report was carried out from the Education Department, Victoria University of Wellington, from January 1981 - May 1982. The research officers responsible for planning and carrying out the research were Mrs Fay Panckhurst (full-time January - December 1981) and Mrs Kathleen Boswell (half-time January 1981 - May 1982). The project was directed by Dr David Galloway, Senior Lecturer in the Education Department of Victoria University. The first edition of this report was written by Dr Galloway in December 1981 and January 1982 from analyses carried out by the research officers, and from notes and papers prepared by them. The second edition was prepared by Dr Galloway in May 1982. It incorporates results from further statistical analyses, carried out by Mrs Boswell, with technical advice and assistance from Dr Kathy Green and Dr Colin Boswell. While joint authorship would undoubtedly have been preferable, both for the first edition and for this edition, time constraints made this impractical.

David Galloway
May 1982.

ACKNOWLEDGEMENTS

The research could not have taken place without generous financial sponsorship from the New Zealand Educational Institute and from the Mental Health

Foundation. Assistance was also received from the Internal Research Fund Committee at Victoria University. This is most gratefully acknowledged. Throughout the research programme support and encouragement was given by members of the NZEI National Executive and by staff. In particular, I wish to record appreciation of support and encouragement from Mr Dave Stewart, President, Mr Jack Smith, National Secretary and Miss Helen Anderson, Deputy National Secretary. Mr Hugh Meek, Curriculum Officer and Mr Peter Allen, Principal of Johnsonville School provided helpful advice, as did Mrs Barbara Lavò, who also ensured the smooth administration of the project from the NZEI end. The New Zealand Education Department and the Wellington Education Board both assisted the project with their support and encouragement. Members of the Administration Committee of the Education Department at Victoria University, Dr John Barrington, Professor Reg Marsh, and Professor Rollo Arnold, gave their co-operation and support throughout the year. Invaluable help was also received from the Institute of Statistics and Operational Research at Victoria University, and in particular from Mr Ross Renner, Applied Statistician, and Dr Colin Boswell, Director of the Computer Services Centre. Dr Kathy Green, Research Fellow at the Department of Education, Victoria University, also provided a great deal of technical advice and assistance. Mr John Pratt, Senior Lecturer in Psychology at Sheffield City Polytechnic, gave permission for his Event-Stress Inventory for Teachers to be adapted for New Zealand conditions. Dr J Ainley, from the Australian Council for Educational Research, and Professor

E A Holdaway from the University of Alberta, gave permission for the Satisfaction with Teaching Questionnaire to be adapted for use in the project. The National Foundation for Educational Research in England permitted use of the General Health Questionnaire. Chapters 1 and 2 of the present report quote extensively from an article by David Galloway, Fay Panckhurst and Kathleen Boswell: "Teacher Stress: A Review of Research and Some Questions Arising from it", which will appear in a second edition of "The Family and the School in New Zealand Society," edited by Peter Ramsay. Chapter 3 contains an extract from a book: "Schools and Disruptive Pupils" by David Galloway, Tina Ball, Diana Blomfield and Rosalind Seyd, to be published by Longman in 1982. In addition, Chapters 5-9 draw on material in a paper presented in 1981 at the Third Annual Conference of the New Zealand Association for Research in Education: "The Prevalence and Sources of Stress for Teachers and Principals", by Fay Panckhurst, David Galloway and Kathleen Boswell. These chapters also draw on material in an article by Fay Panckhurst: "Stress, Health and Absenteeism in Teaching", published in National Education in February 1982. Mrs J Cooper and Ms B Mulligan showed great patience and skill in deciphering and typing the manuscript. Finally, but by no means least, the help is gratefully acknowledged of the necessarily anonymous school principals and class teachers whose co-operation made the study possible.

DISCLAIMERS

Throughout this report I have reluctantly used the male gender when describing school principals and the female gender when describing class teachers. This policy reflects the sex ratio of principals and teachers in the surveys. It also reflects my own dislike of the cumbersome "he/she", "him/her". It does not in any way at all reflect a belief that principals should be male and class teachers female.

Every attempt has been made to protect the anonymity of schools and of teachers. When quoting teachers' comments I frequently altered possible identifying characteristics. In addition, I occasionally made minor alterations to the wording, where this would clarify the meaning. The aims, in every case, were to maintain confidentiality, and to preserve the spirit, rather than the letter, of what the teacher actually said.

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INTRODUCTION: ORIGIN OF THE STUDY.

CAUSE FOR CONCERN.

Some Teachers Talking.

Hearing that the NZEI had agreed to sponsor research on teacher stress, a group of primary school teachers visited Victoria University to explain why they thought the research was necessary. For them, stress was not just a suitable subject for academic research; it was a daily experience. They commented on some of the factors which, they felt, induced stress in their day-to-day work.

"If teachers complain, they are made to feel inadequate."

"All creative work has to be done when you are tired."

"Aggressive and disruptive pupils - there are more of them; it's not enough to have psychological services coming in and telling teachers how to modify themselves to suit the pupil."

"Poorly designed and poorly sited classrooms; poor acoustics; poor display areas; poor heating."

"Teachers have to ask for all stationery and art supplies - like children."

"Public ignorance about teachers; they think we have short hours and long holidays."

"We have a good range of equipment, an adequate supply of books and excellent support from parents and community. Our principal is most supportive and an excellent leader. The children I teach are an interesting blend from a mixed socio-economic group. The conditions I describe are ideal, so why do I feel so exhausted that at the end of the school day I can't eat, am too tired to sleep, can't concentrate long enough to read, paint or hold a sensible conversation with my friends?"

Primary school principals, too, are articulate about the factors which they feel induce stress.

"When they brought in limited tenure, it was to help schools ... which couldn't get staff. But now every school has instability. I've got a marvellous year 3 teacher, but she's got to go. By the time young teachers are eligible for a permanent position, they are married and immobile."*

"Vandalism is a major problem here. It accounts for 2½ hours of my time on Monday morning."

"There's a lack of parental interest - little enthusiasm in reading because mum and dad (both work and) are too damn tired to worry about the children."

"(Last week) a kid hit a teacher ... I had a phone call today complaining that the class still hasn't simmered [illegible].."

"One of my teachers - she has a lot of good qualities, but she hasn't really got the warmth some children need."

"This school is the only one in the area with no hall. That's bugged us, both teachers and parents."

"Teachers chase their tails off. Look, I've been one end of the North Island to the other for promotion, doing just what I tell parents not to do!"

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*In fact, teachers are eligible to apply for a permanent post from July of their first year in teaching. The limited tenure system gives them guaranteed employment for three years. In most areas, however, a teacher's chances of winning a permanent post with less than three years' experience are not high.

Wider Pressures.

Teaching has always been a potentially stressful occupation. Kyriacou (1980a) quotes an extract from The Schoolmaster of 1879, in which a teacher's suicide was attributed to work-stress. None of the sources of stress described in the quotations is new. So why has concern about teacher stress increased so much in recent years?

For thirty years after the second world war, educational facilities and educational opportunities were expanding. No-one seriously questioned the intrinsic value of education in promoting national prosperity and personal well-being. The prevailing mood amongst professional educationists, including teachers, was one of optimism. The 1970s saw the expansion falter. There are clear signs that the 1980s are seeing it reversed. Not since the 1930s have teachers, educational administrators and politicians had to fight so hard to justify expenditure on education to each other, and to the general public.

In England, Prime Minister Callaghan (1976) initiated a "Great Debate" on education. The debate took the form of public and professional meetings throughout the country. It was designed to explore expectations of the State education service, and to identify areas of public concern or dissatisfaction. The debate both reflected and contributed to a climate which encouraged questioning of teachers' achievements, and close scrutiny of the education budget. In New Zealand the "Back to Basics" movement both reflected and contributed to a similar climate (Openshaw, 1980). Increasingly, demands were being heard that educational administrators and teachers should be "accountable" for their activities. There was less agreement on whom they should be accountable to, or what they should be accountable for.

The changing, and increasingly critical, public attitude towards education was related both to the dramatic improvements since the second world war in communications, and also to the correspondingly dramatic increase in the pace of change. Nisbet (1980) notes that a "Handbook of Suggestions for Teachers" (Board of Education, 1905) was reissued in a revised form in 1947, 42 years later. It is difficult to imagine a text published in 1939 being reissued today, as a practical guide for classroom teachers. Far more than in the past, teachers today are under pressure to keep up to date with recent advances in knowledge and theory. Further, as teachers have become more "visible", for example, through increased parent participation in education, they have perhaps also become more vulnerable to criticism from the public, especially parents.

If teachers feel that their achievements are not appreciated, that they are being denied necessary resources, or that they are being expected to achieve better results with less support, it is not surprising that they should demand recognition of the increased complexity in their work, and of the pressures facing them. This response of teachers themselves is why teacher stress is currently receiving a considerable amount of attention.

THE NEW ZEALAND EDUCATIONAL INSTITUTE'S CONCERN.

All unions are concerned about their members' work conditions. A teachers' union has an additional interest in the development of teaching as a profession, and hence in the quality of education which its members can provide. It is not difficult to see why the NZEI should take an interest in teacher stress. Experience of stress may result in poor health, ranging from lowered resistance to colds, to much more severe and chronic illnesses. Stress may lower teachers' morale, and thus reduce their energy for, and commitment to, their day-to-day work. Stress may reflect unsatisfactory working conditions, or unsatisfactory conditions of employment, which may sometimes be alleviated following pressure from a union.

The first research project on teacher stress to be actively encouraged by the NZEI was Borland's (1964) "Enquiry into Matters of Health and Conditions of Employment of Teachers in Primary Schools of New Zealand". Reference is made to this research in Chapters 1 and 2. It made a valuable contribution to discussion about a topic which was already arousing strong feelings.

In 1968 the NZEI Annual General Meeting passed a resolution urging "that a report on mental health of teachers be prepared for consideration by annual meeting 1969". The report: "Mental Health of Teachers" submitted to the 1969 AGM, drew attention to difficulties in identifying mental illness, and criticised the failure of some professionals, including psychiatrists, to recognise the demands which teaching can make, especially on a mentally ill person. The report also criticised procedures for selecting teachers, and recommended greater union involvement. It urged that psychiatric services should be more readily available, and argued that the services of trained counsellors should be made available to teachers.

The NZEI's own network of counsellors was formally established in 1969 and today contains more than 200 members. It is seen as an attempt to offer confidential professional support to members who are experiencing problems in the course of their work (Francis, 1979). Counsellors are experienced NZEI members, appointed by the National Executive on the nomination of Branches, or Branch Committees. A team of counsellors operates in each Education Board district. Teachers always approach Counsellors on their own initiative: it is the individual's choice to accept counselling. Sometimes, though, principals or other senior staff may suggest to a colleague, that he or she might find the counsellor's advice helpful.

The network of counsellors is able to support individual teachers who are experiencing stress. It was never expected, however, that this network would solve the problems of teachers experiencing severe stress, nor was it expected that it would reach more than a minority of teachers who were finding their work stressful. By the second half of the 1970s teachers were starting to recognise the effect of economic recession and associated attitudes towards expenditure on public services. In this climate it was both prudent and appropriate that the NZEI should anticipate the challenges of the last 20 years of the twentieth century.

At the 1979 AGM, the national executive submitted a report, "Towards 2000", to the membership. The report contained a wide-ranging survey of probable developments. Its adoption by the membership committed the executive to explore, among other things, the possibility of carrying out research on teacher stress.

ORIGIN AND SCOPE OF THE STUDY.

Following adoption of "Towards 2000" the executive advertised nationally for outline research proposals on teacher stress. After preliminary discussions between the applicants and the Research and Scholarship Committee, detailed proposals were requested from Mr Philip Dewe of Massey University, and Dr David Galloway of Victoria University. Each of these proposals was subsequently approved by the national executive. The present report, however, is concerned solely with the research programme carried out under a contract between the NZEI and Victoria University.

The research had two related aims, which were summarised in the original proposal:

(i) to identify the prevalence and nature of stress experienced by primary school teachers;

(ii) to assess the relative influence of education department or government policies, internal school organisation, and demographic variables in the school's zone.

The present report is concerned with the planning of this research and with the results obtained from analyses of the data.

PART I

BACKGROUND TO THE STUDY

CHAPTER 1. WHAT IS STRESS? A DEFINITION, AND SOME WAYS OF APPROACHING THE QUESTION.

INTRODUCTION: THE PROBABILITY OF COMPLEX CAUSATION.

Sooner or later, most discussions about teacher stress get round to the question of definition. It is a question that often generates more heat than light. Stress is an intensely personal experience. People who have been under stress are not always satisfied by what they may see as a dry academic attempt to define their experience.

The term "stress" means different things to different people. According to Cooper and Marshall (1976), it can describe pressure on the individual, such as work over-load; the effects of such pressure, such as poor performance at work; and the individual's responses to the pressure, such as escapist drinking. The wide use of the word in everyday life creates difficulties in defining stress. These difficulties are aggravated by the number and complexity of pressures which may be associated with stress.

For teachers, these pressures may be seen as falling into four main groups. First, there are pressures from outside the school. Examples of such pressures are the need to follow the official curriculum, visits by inspectors, and parents' expectations. The second group originates within the school. Teachers may experience "role conflict," for example when their concern about a child's disturbing home background leads them to doubt the value or importance of what they can actually teach in the classroom. Inadequate or inaccessible teaching materials, poor working conditions, strained relationships with colleagues, and disruptive behaviour from children, are further examples of potential pressures arising within the school.

The third and fourth groups apply to all employees, not just teachers. Pressures arising from factors unrelated to school can cause a teacher to experience stress at school. Family problems and illness, whether in the teacher herself or in members of her family are examples of such pressures. A teacher whose marriage is breaking up is likely to have less time, energy and commitment for her work. To a lesser extent, and in a different way, the same applies to a teacher who is suffering from a heavy cold. A teacher who is experiencing stress for reasons of this sort, may be more likely to experience stress from the routine events of an ordinary school day. If she has lacked the time or energy for adequate lesson preparation, the pupils' behaviour may be unsatisfactory, thus creating further feelings of stress.

Finally, we must recognise the possibility that experience of stress may be related to the personality or temperament of the individual concerned. People differ in what they experience as stressful. They differ in how they respond to things they experience as stressful. The fact that two teachers are exposed to similar pressures does not mean that they will react in the same way. For example, one teacher may experience little stress from the presence of an "attention-seeking" child. Another may find the same behaviour acutely stressful, perhaps because of the threat it poses to class control and self-esteem.

WAYS OF STUDYING STRESS

Beehr and Newman (1978) identified three perspectives from which work stress can be studied. The first focusses on the individual characteristics which may contribute to stress and/or poor health. The second focusses on environmental factors which cause stress. The third looks at the interaction between individuals and their work.

The same problems of conceptualisation and definition apply to the closely related topics of teacher anxiety (Coates and Thoresen, 1976) and teachers' "concerns" (Fuller, 1969). Keavney and Sinclair (1978) criticised Fuller, and Coates and Thoresen, for treating concerns as synonymous both with anxiety and with sources of anxiety. To say a person is suffering from stress because she shows symptoms of stress involves similarly circular reasoning.

Three Models of Stress.

The three perspectives described by Beehr and Newman offer working models for studying stress. A 'physiological' model emphasises variables within the teacher, and investigates the individual's responses to events at work. The model is seen as physiological because of the assumed correlation between stress and health. Although the existence of stress-related illness is not in dispute, the extent to which stress contributes to different conditions is unclear.

While the physiological model investigates the individual's responses to stress, an "engineering" model sees stress as pressure exerted on teachers by aspects of their work. Just as metals can be stressed by external forces in engineering, so teachers can react to external pressures.

The limitation of the physiological model lies in its concentration on individual responses to stress. Similarly, the engineering model is limited by its inability to account for the variety of ways in which the same external pressure may affect different individuals. Cox (1978) suggested that stress can best be described "as part of a complex and dynamic system of transaction between the person and his environment".

Cox's definition is consistent with Beehr and Newman's (1978) third perspective, which emphasised the interaction or "fit" between individuals and their work. It implies, simply, that people affect their environment, including the people in it, in different ways. Moreover, they are affected by it in different ways. Situations which are stressful to one person may not be to another. People vary in what they find stressful. Thus, the "interactional" model acknowledges the importance both of individual responses and of external pressures.

Towards a Working Definition of Teacher Stress.

In an important discussion, Kyriacou and Sutcliffe (1978a) proposed a definition of teacher stress which is broadly consistent with Cox's interactional model. In spite of the technical language, this definition is worth printing in full.

"Teacher stress may be defined as a response of negative affect (such as anger or depression) by a teacher usually accompanied by potentially pathogenic physiological and biochemical changes (such as increased heart rate or release of adrenocorticotrophic hormones into the bloodstream) resulting from aspects of the teacher's job and mediated by the perception that the demands made upon a teacher constitute a threat to his self-esteem or well-being, and by coping mechanisms activated to reduce the threat."

One critical part of this definition is its emphasis on the teacher's perception that the demands made on her constitute a threat to her self-esteem or well-being. This implies a distinction between demands which are potentially stressful, and demands which are actually stressful. As we noted earlier, teachers may differ in how much stress they experience from the presence of an "attention seeking" child in their class.

A second important part of the definition lies in its attention to "coping mechanisms activated to reduce the perceived threat". The authors see stress as "being directly related to the degree to which the (teacher's) coping mechanisms are unable to deal with actual stressors. In other words, Kyriacou and Sutcliffe define stress in terms not only of the teacher's perceptions, but also of her responses. This seems consistent with the broad use of the term in everyday life, and is accepted here as a working definition.

Limitations in any Definition.

Whatever the merits of Kyriacou and Sutcliffe's (1979) definition, or any other definition, it is still necessary to recognise that different individuals define stress in their own idiosyncratic ways. For researchers, there is a clear problem. If they define stress too narrowly, they will limit their field of inquiry. Adopting an "engineering" model of stress, for example, limits a study to investigation of external pressures, or "stressors". This is a legitimate approach. There should be no objection to a study of one aspect of a wider problem; the limitations in the study must, however, be clearly recognised. Kyriacou and Sutcliffe's

(1979) definition sees stress as "a response of negative affect". Yet some teachers conceptualise stress as a stimulating, exhilerating experience. "She thrives on stress" one principal said of a colleague.

We have come across no definition which could satisfy everyone. The reason is that stress is not a clearly defined topic, but rather a broad area for investigation, with many blurred edges. Research on teacher anxiety (eg Coates and Thoresen, 1976), and teacher "concerns" (Fuller, 1969) or satisfaction with teaching (Holdaway, 1978) has clear relevance to teacher stress. Similarly, research on teacher stress should yield information about factors which concern teachers, make them anxious, or affect their job satisfaction.

Implications for the Present Study.

The research team's brief was to investigate the nature and causes of teacher stress. The brief was a wide one. It precluded any decision to adopt a narrow definition of teacher stress, based, for example, on an engineering model. To do so would have meant restricting the investigation to one aspect of the problem. An acceptable definition would need to reflect the ways in which a majority of teachers conceived of stress. We recognised that some teachers may see stressful situations as exhilerating, offering a challenge that may enable them to achieve greater personal or professional satisfaction. Nevertheless, it seemed clear that the majority regarded stressful situations as unpleasant. Kyriacou and Sutcliffe's definition is consistent with this assumption.

An equally important point concerns the form of investigation. Clearly, the questionnaires and interview schedules developed for the study must be broadly consistent not only with a formal definition of teacher stress, but also with the expectations of respondents, all of whom might have their own beliefs about the nature of stress, and hence about what should be included in a questionnaire on stress.

CHAPTER 2. THE PREVALENCE AND NATURE OF TEACHER STRESS.

HOW MANY TEACHERS EXPERIENCE STRESS?

Asking teachers to report the stress they experience in the course of their work presents practical difficulties. To start with, this approach concentrates on a population of "survivors"; it does not include former teachers, some of whom may have left the profession for reasons related to stress. More serious, virtually all research has relied either on anecdotal reports (eg Dunham, 1976) or on survey methods in which teachers complete questionnaires about the nature and severity of stresses they have experienced.

There are several problems here, as in all questionnaire surveys:

(i) Many surveys obtain poor response rates. Reports of teacher stress have been based on a response rate as low as 22 per cent (Cichon and Koff, 1980).

(ii) Although the results lend themselves to "objective" statistical analysis, the raw data relate to highly personal experiences, which each individual interprets in her own way. Moreover, evidence about the "reliability" of questionnaires is seldom provided (ie whether a teacher completes a questionnaire in the same way on two different occasions).

(iii) The "response-set" of participants in a survey may influence the results. Thus, when completing a questionnaire at the request of their union, teachers may be influenced by an implicit expectation that they are under stress.

(iv) It is seldom possible to find out whether self-reported stress is reflected in a teacher's performance in the classroom.

(v) Most important of all, perhaps, a questionnaire constrains respondents to reply to specific questions; and it cannot aim at more than a summary of a highly complex situation. A completed questionnaire seldom helps a researcher to understand what stress feels like for the teacher concerned.

Yet questionnaire surveys do have certain theoretical and practical merits. A practical merit is that they are cheap and relatively simple to conduct. At a theoretical level, stress is a subjective experience. While there are ways of observing the symptoms of stress, it is logically impossible to observe the subjective experience. Questionnaires may allow the individual to report her subjective experiences, albeit in a summary form. A further advantage in questionnaires lies in providing a valuable overview. They can indicate: (i) how many teachers report a substantial level of stress; (ii) whether particular groups, for example, beginning teachers are particularly susceptible; and (iii) which aspects of the job are principally associated with stress.

Overseas Studies.

Few studies have demonstrated substantial differences in the amount of stress experienced by different groups of teachers; for example, men compared with women, older or more experienced teachers compared with younger or less experienced teachers. One early American survey found that 17 per cent of 600 teachers were "unusually nervous", and 11 per cent had suffered nervous breakdowns (Hicks, 1933). Another found that 33 per cent of women teachers suffered from nervous symptoms (Peck, 1933). Randall (1951) reported that 10 per cent of absences from school lasting at least 10 days were due to "nervous conditions" such as fatigue, prolonged menstrual disorders and situational reactions The National Education Association (1939) reported 37.5 per cent of a nationwide sample of American teachers as seriously worried and nervous. In 1951, 43 per cent were reported to be working under considerable stress and in 1967, 78 per cent reported stress at a moderate or severe level. Unfortunately, variations in the form of questions in each survey prevent any conclusion that teacher stress had increased between 1938 and 1967.

In England, Kyriacou and Sutcliffe (1977a, 1978b, 1979) asked comprehensive school teachers: "In general, how stressful do you find being a teacher?" Replies were rated on a five point scale from "not at all stressful" to "extremely stressful". From more than 700 replies, combining evidence from a number of studies, Kyriacou (1980a) found that roughly one in four ticked the top two categories: very stressful and extremely stressful. A smaller study of Sheffield primary school teachers by Pratt (1978) showed that 20 per cent displayed symptoms of illness, and that their symptoms were related to what these teachers felt and described as stressful in their daily work.

New Zealand Studies.

In a study of teachers' health, Borland (1964) found that 30 per cent of a national sample of 378 teachers reported serious worry about aspects of children's behaviour and related disciplinary matters. Only 2 per cent, however, claimed to lack the vitality necessary for classroom demands, and 11 per cent reported their state of health as barely adequate. Women rated their health as worse then men, though not to a significant extent, and took more sick leave.

More recently, Coleman (1981) has reported findings from a small-scale survey of primary teachers in which he replicated part of Kyriacou and Sutcliffe's (1978b) study. In Coleman's study, 76 teachers in a remote, scattered rural area in Northland answered the question: "In general, how stressful do you find being a teacher?". Just over 13 per cent rated teachers as either very or extremely stressful, compared with 20 per cent in the English secondary school samples.

Comparative Studies.

Any conclusions from research on teacher stress raise two questions. The first is whether teachers experience more stress than members of other groups of employees. The second is the extent to which reported stress varies between countries and within the same country.

In one of the few direct comparisons between teachers and other groups, Bentz et al (1971) asked elementary and secondary school teachers, community leaders and a sample from the general public to complete a Health Opinion Survey. Results indicated that teachers and community leaders enjoyed slightly better mental health than the general public, showing less anxiety and depression. Rates of psychiatric impairment were 2.9 per cent for teachers, 5 per cent for community leaders and 11 per cent for the general public. Nevertheless, one in three teachers reported mild to moderate symptoms of emotional illness.

In a cross cultural and inter-professional study, King (1970) investigated mortality rates for males in medical, legal, teaching and clerical professions in the U.S.A., England and Wales, Scotland, Denmark, New Zealand and South Africa. He found consistent differences in the six countries, with low mortality rates amongst teachers and clergymen, and high rates amongst lawyers and physicians. Thus, in New Zealand, from 1959 to 1963, the standardised mortality ratio for physicians, surgeons and dentists was 102 per cent, while for teachers the figure was 85 per cent (where the value of 100 per cent represents the standard population). The implication, at least for males, is that although one in five teachers may find teaching very or extremely stressful, morbidity and mortality rates amongst teachers are lower than amongst other professionals or the general public. Moreover, teachers do not appear a high-risk group for suicide (Registrar-General, 1978). On the other hand, Hodges (1976) found that the number of male teachers dying towards the end of their career had doubled over the previous ten years, and the number qualifying for a breakdown pension had more than trebled.

Superficially, the general picture is consistent both with Cherry's (1978) claim that professional and white-collar workers were more likely to report nervous stress at work than manual workers, and with the conclusions of Caplan et al (1975) who found indices of ill-health greater for blue - than white-collar workers. Cooper (1980) pointed out, however, blue - and white-collar workers are subjected to different sorts of stress, both at work and at other times.

Kyriacou (1980b) reviewed studies which suggest that teachers report more work-related stress than members of other professions, even though this is not reflected in a higher rate of mental or physical ill-health. For example, Pratt (1976) reported more teachers as mentioning work amongst the main stresses in their lives than other professionals. Kyriacou suggested two possible explanations for the apparently inconsistent results. First, teachers may be more prone to complaining about stress than other professionals. Second, they may in fact experience more stress, but variables such as length of school holiday or social support from colleagues act as mitigating circumstances.

In one of the few studies comparing teacher stress in two countries, Dunham (1980) found that English secondary school teachers identified more stressful situations than German secondary teachers. The German teachers reported less conflict arising from confusion between academic and pastoral responsibilities. In addition, they felt more involved in decision-making within the school.

THE SOURCES OF TEACHER STRESS.

We are not aiming here to offer a comprehensive summary of all the sources of stress teachers have reported. Rather, we aim to draw attention to four major areas of interest. These are biographical variables, external and administrative pressures, children's behaviour and relationships with colleagues.

Biographical Variables.

Although the studies typically show that groups of teachers do not differ significantly in the levels of stress they report, there do seem to be differences between the groups in the actual sources of stress. For example, women in Borland's (1964) study were more concerned about disciplinary matters than men. Similarly, Kyriacou and Sutcliffe (1978b) found that female secondary school teachers rated "punishing pupils", "noisy pupils" and "generally high noise levels" greater sources of stress than their male colleagues. Disciplinary problems were also reported as more stressful by the younger and less experienced teachers in the English study.

External and Administrative Pressures.

Evidence from research in industry suggests what white-collar workers experience stress from high work-load, having responsibility for other employees, and job complexity. In contrast, stress for blue-collar workers arises from under-utilization of their abilities, lack of job complexity and uncertainty about their future (Cooper, 1980). One possible implication for schools is that principals and senior staff who lack the ability to delegate responsibility may themselves experience excessive stress from a heavy and complex work-load. At the same time, they may cause stress for their class-teacher colleagues, by causing them to feel frustrated and under-valued. Some support for this suggestion comes from a survey in which teachers overwhelmingly named principals as the people who could do most to initiate reduction in stress-related illness (Landsmann, 1978).

There is general lack of agreement in research studies about the importance of demographic variables, such as class size, number of hours spent in classroom teaching, and time spent in extra-curricular duties. While it is clear that these are sources of stress for some teachers, they do not appear to be reliable indicators of stress in a large sample of teachers (eg Coates and Thoresen, 1976). A possible explanation is that some teachers successfully adjust their teaching style to cope with these pressures, and hence do not report them as immediate sources of stress.

There is evidence that the prevalence of worry for New Zealand teachers varies according to their location (Borland, 1962). More teachers in rural communities reported worries (34 per cent) than did those in boroughs (30 per cent), cities (28 per cent) or large towns (16 per cent). Nash (1980) reviewed some of the pressures on rural teachers. In particular, he drew attention to community expectations, and consequent strain between school and community, although the available evidence did not suggest that this was a widespread problem. Moreover, he cited evidence from Lewes' study of principals (1979) of low morale amongst rural teachers. He claimed that the recently introduced "broad-banding" salary structure is a major source of dissatisfaction. It may, however, be too early to assess the full impact of this.

Both excessive clerical work (McLaughlin and Shea, 1960) and poor salaries (Rudd and Wiseman, 1962) have been identified as the principal sources of teachers' dissatisfaction. In Sheffield, England, Pratt (1978) found that reported stress for primary teachers increased in proportion to the level of financial hardship amongst the pupils' parents. In addition, there was a tendency, particularly amongst teachers of deprived children, for stress to increase with the age of the pupils.

Administrative changes following political decisions have been identified by Dunham (1976, 1977) as a major source of stress for secondary teachers in England. Reorganisation from a selective system to a comprehensive secondary school system was thought to have caused a social and emotional upheaval for teachers and children alike. As a result, teachers found themselves in two forms of role conflict. "Intra-role conflict" was caused by conflicting demands from colleagues. For example, a head of department might be under pressure from the head to adopt mixed ability teaching, and from colleagues in his department to retain traditional ability grouping. "Inter-role conflict", on the other hand, was likely to arise when teachers could not reconcile the potentially conflicting roles of teacher and counsellor. Staff with guidance responsibilities, such as deans, were especially vulnerable to this sort of pressure. As a result of administrative decisions to develop the school's guidance system, they no longer had a clear idea about the scope and limits of their role as teachers.

Concern about promotion is another potential source of stress. In New Zealand this is aggravated by the system of appointment and promotion in which assessment by inspectors plays a significant part in determining teachers' promotion. Primary teachers in Borland's (1964) study reported concern about grading and promotion among the top five things that interfered with their sleep or their efficiency as teachers. Although the grading system has since been modified, "dislike of visits from inspectors" was identified in Coleman's (1981) study as one of the six most stressful items. Similarly, Ramsay et al (1981) reported that nearly half his sample of primary teachers felt some degree of stress associated with inspectors' visits.

Children's Behaviour.

In New Zealand, Coleman (1981) demonstrated the importance of children's misbehaviour as a source of stress. Numerous overseas studies, too, have highlighted the importance of children's behaviour and attitudes. A review of research on the related topic of teacher anxiety summarised fifteen studies of beginning teachers (Coates and Thoresen, 1976): ability to maintain discipline featured as a consistent worry.

Even so, the importance of disruptive behaviour as a source of stress may have been under-estimated according to Kyriacou and Sutcliffe (1977b). They argued that teachers may only report aspects of their job as stressful which can be changed by administrative decisions, for example, salary or class size. Other reasons they suggested are that teachers might be reluctant to admit to stress which implies personal failure or inadequacy, and even that some teachers might not be fully aware of the stress involved in maintaining classroom discipline. Gough's (1974) evidence is consistent with these suggestions. He found that school principals regarded discipline as the greatest problem facing beginning teachers. The beginning teachers themselves, however, claimed that teaching mixed ability classes was their main source of stress.

Pratt's (1978) work, however, suggested that teachers do perceive children's behaviour as a major source of stress. His study is of particular interest as it focussed on stress associated with 43 specific events that teachers might have encountered in the course of the day. Items rated as the most stressful were mainly to do with children's behaviour or teacher-child interaction, for example, "The weather made the children restless", "Some children did not do as they were told straight away", and "There was one difficult child in my class".

It is important not to assume a direct causal link between disruptive behaviour and teacher stress. As Borland (1962) pointed out, disruptive behaviour can be the effect of teacher stress as well as the cause. A teacher who is under stress for other reasons may have less time for lesson preparation and less energy for teaching. It is predictable that this should be reflected in the pupils' behaviour. Borland's suggestion is consistent with evidence obtained by Ramsay et al (1981). In a sample of 497 teachers in Otara and Mangere, they found a strong association between low usage of teaching materials and stress arising from pupil-related problems. While acknowledging the possibility that high stress leads to low resource usage, they argued from a school by school analysis that a good teaching programme, together with high resource usage, helps to inhibit teacher stress.

Dunham (1976) also drew attention to stress caused by disruptive pupils. He argued that this is aggravated by the tight control over teachers' use of sanctions against pupils, implying that greater freedom to punish children will result in reduction of stress. It may be argued that this should remain an untested hypothesis. In Dunham's view, both teacher stress and disruptive behaviour may result from, or at least be aggravated by, external administrative decisions. In English schools he attributed particular importance to the reorganisation of secondary education into a comprehensive system.

Relationships with Colleagues.

Rudd and Wiseman (1962) identified poor relationships with colleagues as the second most important source of dissatisfaction of British teachers. Similarly, several studies have reported tension in relationships with their superiors as the major source of anxiety for beginning teachers (Coates and Thoresen, 1976). The importance of satisfying relationships with colleagues at both personal and professional levels is probably self-evident. Teachers need to feel able to relax with colleagues, and to turn to colleagues for advice or support. Holdaway (1978) reported a generally high level of satisfaction in relationships with colleagues among a sample of Canadian teachers.

Poor communication between staff has been noted as a source of stress by Dunham (1976) and Hargreaves (1978). Poor communication, however, can be characterised either by lack of communication, or by destructive communication. For Hargreaves, there were two problems. A teacher who admits she has a problem feels incompetent. Yet colleagues may hesitate to offer help for fear of implying they think she is incompetent! As a result, each individual has to work out her own solution: "Teachers bear their stress in painful isolation. It attacks the heart of the teacher, both physically and metaphorically".

Hargreaves' argument was that many of the problems of teachers are created by teachers. Drawing what he admitted to be a caricature, he claimed teachers tend to become both didactic and petty. Both are coping strategies, adopted to maintain the social control essential in teaching.

Unfortunately, they also contribute to the lack of supportive relationships between teachers, and hence to: "that distinctive, progressive exhaustion which is a major characteristic of teachers. Other professionals get tired; teachers become exhausted".

In their study of disruptive behaviour in secondary schools, Galloway et al (1982) developed part of Hargreaves' argument. Working in ten schools, they found substantial differences in staff support networks. In some schools there was a tendency to refer disruptive pupils upwards, to be dealt with by middle managers, such as deans or heads of department. This policy often resulted in relatively minor problems escalating into a major confrontation. At other schools, teachers were expected to seek advice and assistance from the pupil's form tutor in dealing with the problem themselves. The evidence suggested that stress was more frequent and more severe in the first group of schools. The reasons seemed to lie partly in a fear of being considered incompetent by senior staff, and partly in a feeling that senior staff would not offer effective help, nor deal with the problem adequately themselves.

SYMPTOMS OF STRESS, AND COPING STRATEGIES.

Symptoms may most conveniently be seen as responses to stress which, together with the subjective perception of stress, act as a signal to the individual that more efficient coping strategies are needed. Symptoms of stress may not be recognised as such; conversely, it is theoretically possible to experience stress without showing overt symptoms of it.

Stress, Illness and Behaviour.

Immediate responses to stress are release of adrenalin into the bloodstream, increased heart-rate, sweating and pupil dilation. Medium-term responses may be increased susceptibility to minor infections or migraines. Long-term responses may be an increased risk of conditions such as diabetes, peptic ulcer and coronary heart disease. Unfortunately, there have been few systematic studies of the relationship between teacher stress and specific illnesses.

Pratt (1979) reported a positive association between perceived stress in English primary school teachers and reported symptoms of minor psychiatric illness. He did not, however, find a significant correlation between stress and neuroticism as measured by the Eysenck Personality Inventory (Eysenck and Eysenck, 1964).

A teacher's decision to stay away from school because of a minor illness is an arbitrary one. Her behaviour may be influenced as much by her feelings about the job as by the seriousness of her illness. An unpublished study of teachers in New Zealand quoted by Chinnery (1979) noted that although absence was attributed to physical illness in many of the high absentee groups, the initial reason for absence was often to avoid contact with pupils or to reduce mental stress.

Kyriacou and Sutcliffe (1979) noted a positive association between stress and the total number of days absent from school, though not with frequency of absences. Simpson (1962, 1976) regarded sickness-related absences from teaching as an index of stress. He argued that such absences provided "a means of temporary withdrawal from the stress of continuing in, as distinct from breaking, a work relation". Simpson demonstrated that absence rates were highest in the early years of teaching. For men, but not women, there was a marked drop between the ages of 25-39, with a subsequent increase, though not to the same level as among the youngest teachers. It is not difficult to see why younger teachers may be under greater stress than their more experienced colleagues. They are learning the job, and have not yet acquired effective coping strategies. Simpson suggested that the possibility of promotion is the critical factor in the drop in sickness rates amongst men aged 25-39. He argued that absences are lowest in the age-group with the highest prospects of promotion.

Simpson presented a convincing case, but his data permitted no analysis of the reasons for absence. On common-sense grounds alone, it seems improbable that recently-qualified teachers suffer the same stresses as their colleagues with twenty or thirty years' experience. The stress experienced by the enthusiast fresh from college is quite different from the administrative pressures on a school principal, or the frustrations of teachers who have lost interest in their work and feel promotion has passed them by. Study of industry executives has shown age and level of responsibility to be linked with risk of coronary heart disease (Pincherle, 1972).

Some caution is necessary, though, in regarding illness as an index of stress. Stress undoubtedly contributes to many illnesses, and may even be a causal factor in some. On the other hand, illness itself can cause stress. Having a bad cold may lower a teacher's energy, and thus reduce her ability to cope successfully with potentially stressful situations. Thus, we can never be certain whether sickness should be seen as the cause or the result of stress.

In their survey, Kyriacou and Sutcliffe (1978b) asked comprehensive school teachers in England to state how often they experienced each of seventeen symptoms of stress. The two symptoms with the highest mean rating were exhaustion and frustration. Women reported headaches, tearfulness and exhaustion significantly more frequently than men. In a factor analysis study of the results, the principal factor identified related to feelings of being "very tense". Informal reports suggest that irritability, tension and a tendency to snap at children, colleagues or family are frequent signs of stress. Nevertheless, there has been remarkably little systematic research on the subject. Many researchers seem to have concentrated on the sources of stress, taking the symptoms for granted.

Hargreaves' (1978) description of teachers' exhaustion is consistent with the notion of "burn-out" which has attracted attention in North America. Edelwich and Brodsky (1980) described four stages of increasing disillusionment amongst personnel in the helping professions. The first stage of enthusiasm is followed successively by stagnation and frustration. Finally apathy sets in, the individual becoming indifferent to the needs of the clients and to her own work performance. The concept of burn-out is useful for its explicit focus on stress as a progressive phenomenon. As yet, however, few attempts have been made to investigate burn-out systematically in a representative group of teachers. Much of the evidence is still speculative.

Coping with Stress.

An important point recognised by Keavney and Sinclair (1978) is that the impact of coping strategies is not necessarily positive. For example, a teacher may cope with disruptive pupils by finding ways to interest them in their work. Alternatively, she can cope by becoming increasingly authoritarian, and placing greater emphasis on mechanical, intellectually undemanding exercises. Keavney and Sinclair quote evidence that teachers may reduce their anxiety by becoming more dogmatic.

In reviewing attempts to reduce teacher anxiety, Coates and Thoresen (1976) described two main groups of interventions. One involved training in teaching skills, and the other teaching relaxation skills. Both methods achieved mixed results, though the authors thought the most promising results had been obtained from a combination of the two approaches.

Social support has been shown to have beneficial effects on health and social adjustment in a wide range of situations (Cobb, 1976). Social support may be seen as a way of preventing stress as much as a way of coping with it. Kyriacou (1981) discussed the distinction, made by Lazarus (1974), between direct-action coping strategies, such as transferring a pupil to another class, and palliative strategies such as relaxation, which aim to deal with the subjective experience of stress. He argued that benefits from social support fall into three groups. First, social support enables teachers to obtain advice from colleagues about new direct-action techniques; second, discussion with colleagues can help teachers look at some of their concerns from a more realistic perspective; finally, social support is a way of relieving tension that has built up in a period of stress. Hence, social support may underlie both direct-action and palliative coping strategies.

Summarising suggestions in teachers' journals in the United States, Kyriacou (1980a) suggested five ways of coping with stress: (1) Get things in perspective; look at the problem dispassionately, and try to laugh at it. (2) Analyse yourself and your situation; make time to think about the sources of stress, your reactions, and how you cope. (3) Recognise your limitations; don't overwork! (4) Pamper yourself; give yourself a treat. (5) Relax; either in a warm bath or by taking vigorous exercise.

These were only suggestions, however. To find out how teachers actually did cope with stress, Kyriacou asked teachers at two comprehensive schools to say how frequently they used each of a number of possible coping strategies. He found that ways of coping fell into three groups. The first involved talking to other teachers, the second, considering their situation and taking action to relieve the stress, and the third, forgetting about stress at work by directing their attention on to other things.

CONCLUSIONS

Research on teacher stress is still in the early stages. Many of the studies have suffered from poor methodology, a low response rate, or both. It is only in the last few years that workers such as Kyriacou have started to compile an adequate data base from which to demonstrate the many faceted nature of teacher stress. We have no way of knowing how far information obtained from one group of teachers applies equally to other groups. Kyriacou's work, for example,was based on English secondary school teachers. We do not know whether similar results would have been obtained from English primary school teachers - let alone whether they have any relevance in New Zealand.

Another general point to emerge from the studies reviewed in this chapter is that more research has concentrated on the prevalence and sources of teacher stress than on coping strategies. Yet a focus on coping strategies often implies acceptance of the sources of stress. Teachers need coping strategies precisely because they find certain events or situations stressful. It seems logical, if optimistic, to suggest that one way to tackle stress may be to remove the sources of stress. As yet very little research has adopted such a preventative approach. In the next chapter, we consider this and other questions arising from the existing research.

CHAPTER 3. SOME QUESTIONS ARISING FROM OTHER STUDIES.

QUESTIONS ARISING FROM OVERSEAS STUDIES.

One way of assessing the usefulness of research is to consider its heuristic value - ie the extent to which it stimulates further investigation. It is probably too early to make a useful assessment either of the practical or of the theoretical value of most research on teacher stress. The results do, nevertheless, indicate a number of areas which might repay closer study. We are talking here in general terms, about questions arising from research which has mainly been carried out overseas. Later we shall look more closely at the implications for New Zealand in particular.

Prevalence.

Up to one in five teachers may find their work very stressful or extremely stressful. There is evidence that at least some absences from work are associated with stress. Yet teachers appear to enjoy good mental health and low mortality rates by comparison with members of some other professions. Interpreting the evidence is not easy. Most of the research has, however, been based on populations of survivors, that is, people who remain in teaching. In New Zealand, 65 per cent of the 1976 year-one primary teachers left the profession within their first four years of teaching (Doyle, 1980). Long-term studies, which extend the work of Battersby (1980) on beginning teachers, are needed to establish how many teachers leave teaching because they find their work stressful.

Physiological and Behavioural Effects of Stress on Teachers.

Although many of the early laboratory studies investigated the physiological effects of stress, few researchers have applied direct observational methods in studying the effects of stress on teachers. Information about teachers' illnesses, and about their possible association with stress is certainly needed. Yet, we also need to understand the immediate effects of events in the classroom. Case studies of a small number of teachers could combine physiological techniques with direct observations of behaviour, in order to analyse teachers' responses to potentially stressful events in the classroom. They could also provide valuable information about the physical demands of teaching.

A Developmental Perspective.

Although there is some overlap, school principals are exposed to a different set of potential stresses from class teachers. In addition, perceptions and priorities change with age. The "burn-out" syndrome adopts a developmental perspective, but the relative importance of age, experience and responsibility level remain almost unexplored. Information is needed not only on the stresses experienced by principals, deputy principals, and other senior teachers, but also on the effect of length of time in the same post, or the same school.

Teacher Stress and Pupils' Performance.

How far teacher stress affects pupils' performance remains an open question. A teacher who sets high, though realistic, standards may create stress for herself, but the pupils are likely to benefit. On the other hand, stress may become too great, and interfere with the teacher's ability to plan lessons or to set realistic goals. Again, case studies using interviews and direct observation could provide valuable insights.

PREVENTION OF STRESS: SUGGESTIONS FROM RESEARCH ON DISRUPTIVE BEHAVIOUR.

Can stress be prevented, perhaps by removing the sources of stress? Or, more provocatively, do the policies and practices of teachers themselves result in an increase of feelings of stress rather than a reduction? We have already noted Hargreaves' (1978) argument that many of the problems of teachers are created by teachers. A closer look at some sociological research on disruptive behaviour suggests ways in which teachers may create stress for themselves by following certain policies and practices. The paradox is that these policies and practices are often seen as coping strategies, intended to reduce stress.

A Sociological Perspective.

According to Newman and Wilkins (1974) schools have something in common with the "total institution" described by Goffman (1961). Goffman defined a "total institution" as "a place of residence and work where a large number of like-situated individuals, cut off from the wider society for an appreciable period of time, together lead an enclosed, formally-administered round of life". Such a system requires rules; yet obedience to rules logically implies the possibility of disobedience. Punishment implies the possibility of reform; it also implies the possibility of rebellion by pupils who question their teachers' right to punish.

Under this model, the more "closed" the school in its administration and relationships with "outsiders" such as parents and community figures, the stronger the probability that some pupils will behave in a deviant way. In other words, the school's own rules and expectations create deviance. A pupil who insists that he is an atheist will go unnoticed at one school. In a Roman Catholic school, on the other hand, his atheism constitutes a fundamental challenge, not only to higher authority, but also to the school's own authority. When they feel that their authority is threatened, teachers are likely to feel stress.

Cicourel and Kitsuse (1968) developed this argument in their analysis of ways that teachers may "label" pupils. Calling pupils "slow learners", "truants", "in need of counselling", or "from a bad home" can actively assist in launching them on a career of delinquency and failure. Once labelled, an individual may be expected to live up, or down, to his label. It seems possible, at least, that policy and practice within a school may influence the amount of negative labelling by teachers. It seems likely that pupils who live down to their labels may represent an important source of stress for teachers.

Differences between Schools.

More recent research on the school's influence over its pupils' behaviour and educational progress suggests other ways that stress may be minimised, if not prevented. Rutter et al (1979) found substantial differences between twelve London comprehensive schools in the pupils' behaviour and in their educational progress. They showed that these differences could not readily be attributed to variations in the pupils entering each school. These results were consistent with other research indicating the importance of a school in determining the likelihood of its pupils appearing before the juvenile court (Power et al,

1972) and in encouraging regular attendances (Reynolds and Murgatroyd, 1977)

The research suggests that some schools are strikingly successful in achieving high attendance rates, low rates of disruptive behaviour in school and delinquency out of school, and high educational attainments. At other schools, the reverse seems to be true. It seems logical that these differences should be reflected in the stresses and satisfactions which their teachers experience. The evidence suggests that the differences cannot be attributed to structural variables such as age of buildings, school size, class size, or the organisation of remedial teaching. Rather, they seem to be due to a combination of social variables which together create the school's "climate" or "ethos".

Research is needed on ways in which teachers' own policies and attitudes contribute to the stresses and satisfactions they derive from their work. To feel stress _and_ satisfaction is not, of course, inconsistent. If a high level of job-satisfaction depends on achieving high standards, it probably cannot be achieved without incurring stress. Yet the stress involved in successfully meeting a challenge is quite different in nature from the stress resulting in apathy or despair. Both kinds can be seen in schools, but we know little about the mediating variables.

PRIORITIES IN NEW ZEALAND RESEARCH ON TEACHER STRESS.

If research overseas on teacher stress is still at an early stage, the same applies with even greater certainty to research in New Zealand. Overseas studies can suggest areas which might merit investigation locally, but they cannot replace local studies. Similarly inquiries such as Borland's

(1962) early study, Coleman's (1981) small-scale survey in Northland, or Battersby's (1980) work on beginning teachers, are invaluable for suggesting likely sources of stress. They illustrate the need for up-to-date research in the broad area of teacher stress, and the related areas of teacher health and satisfaction. Given the relatively uncharted nature of the territory, the problem facing researchers is to determine priorities.

Galloway et al (1981) describe some of the questions which need to be answered:

"How many teachers find their work stressful?"

"How many are showing symptoms of ill-health? Can these be related to the stress they report in their daily work?"

"Are particular groups of teachers, or teachers in particular areas, more likely to be 'at risk'?"

"How many are thinking of leaving the profession for stress related reasons?"

"What are the sources of satisfaction in teaching? How are they related to stress?"

"What are the main sources of stress experienced during the teaching day?"

"How do school principals' experiences differ from those of classroom teachers?"

"Are certain forms of classroom design or school organisation more strongly associated with stress than others?"

These are questions about the prevalence, nature and sources of stress for teachers. It would be just as legitimate to ask questions about ways in which teachers cope with stress, or about the effects of stress on their personal and professional lives. Similarly, a good case could be made for a detailed study of the effect of administrative and educational policy, whether at the levels of the Department of Education, the Education Boards or individual schools. Such a study might focus both on the effect of various policies, and also on the way they were implemented.

Our decision was to concentrate on questions concerning the prevalence, nature and sources of teacher stress. It seemed to us that some answers to these questions might provide a useful background on which to base further, more specialist investigations. Studies of teachers' strategies for coping with stress, and of ways in which stress may be mininised or prevented at the level of school organisation or climate, are undeniably important. We believed, though, that these studies should arise from a solid core of information on the prevalence, sources and nature of teacher stress.

PART II

THE SURVEYS: SCOPE AND METHOD

CHAPTER 4. PLANNING THE SURVEYS.

SCOPE

In planning our work we had to choose between an intensive study of one aspect of the subject, and a more wide-ranging - but less intensive - coverage. The relative lack of previous research in New Zealand dictated the latter. Moreover, the NZEI had previously made clear that school principals should be included in the research programme. As the sources of stress for principals are possibly different from those for class teachers, it was clear that we would have to carry out separate surveys.

There was an important sense in which the decision to carry out a wide-ranging survey limited the aims of the research. In the available time it would have been possible to investigate one aspect of the topic, and carry out a thorough analysis of the results. Given the scope of our work, however, with separate surveys required for principals and for class teachers, it would be unrealistic to aim at a large representative sample from the country as a whole.

The immediate need was for basic descriptive information: (i) about the prevalence and sources of stress for principals; (ii) about the prevalence and sources of stress for class teachers, and about the relationship between stress and health. As we were committed to producing a report by January 1982, we needed to plan the surveys in a way that would enable us to provide the necessary descriptive information within the initial twelve months of the study. However, we also planned them in a way that enabled us to carry out more sophisticated analyses at a later date.

A number of people pointed out during the year that the sources of stress for deputy principals and for S.T.J.C's differ both from those of class teachers and of principals. Hence, we should really have planned separate surveys for them too. This is a valid argument. Senior members of staff, such as deputy principals may experience stress from the conflicting expectations of their principals and of their less senior colleagues. Our decision to confine our study to principals and to class teachers simply reflected the limited amount of time available.

METHODOLOGICAL ISSUES

The decision to focus our study on the prevalence, nature and sources of stress dictated the need for a questionnaire survey of class teachers. Given the constraints of a one year research programme, this seemed the only way of obtaining information from a sufficiently large number of teachers. In deciding to carry out a questionnaire survey, we had to acknowledge that we would be unable to make direct observations to illustrate ways in which teachers respond to potentially stressful circumstances. Similarly, we would not be able to assess possible physiological responses to stress, for example by monitoring heart-rate or blood pressure at regular intervals throughout the day.

We would, on the other hand, be able to ask teachers for information about their health, and might then be able to relate this information to their reported experiences of stress from day-to-day events. Further, we would be able to seek information about circumstances outside the classroom which might contribute to experiences of stress during the school day. In short, the advantages of a questionnaire survey seemed to outweigh the limitations.

The same considerations applied to the study of school principals. Here, however, it seemed more feasible to supplement information from questionnaires by interviewing principals who agreed to participate. We had two main reasons for this decision: (i) the survey was seen as an exploratory study, requiring information from more than one source; (ii) we thought that interviews might provide a valuable source of information about the possible effect of school policy or organisation on the stresses reported by class teachers.

One further point was that we expected to be able to administer questionnaires, and to interview principals, on one occasion only. Hence, a longitudinal approach would not be possible. It would clearly be of interest to monitor the stress reported by a group of teachers at different times of the year, and over a much longer period, but that would not be possible in the available time.

SAMPLING CONSIDERATIONS

A conventional way to identify a sample is to decide how many teachers the sample should include, and then to select names at random from a list of teachers provided by the New Zealand Education Department or by an Education Board. We decided against this procedure. In Chapter 3 we discussed the possibility that a school's policies and organisation might exert an important influence over the stresses and satisfactions reported by teachers. Identifying a random sample of teachers from throughout a large area is likely to result in selection of one or two teachers from a large number of schools. Such a procedure would not give many clues to ways in which a school's "climate" or "ethos" might influence its teachers' reports.

Our decision was to identify a sample of schools, and to include the principals and all teachers with full-time class responsibility in our samples. This procedure could be used to produce roughly the same number of teachers as the random sampling method described above. The most important reason for using this procedure was that it might provide a way of identifying schools suitable for intensive study if we were able to carry out further research on completion of the present programme.

We had decided to confine our study to the North Island part of the Wellington Education Board area. This decision was influenced by the need to visit schools in order to interview principals. In addition, we thought it necessary to discuss the project with each school's staff before sending them the questionnaires. In this way we hoped to enlist their support, and hence to achieve a more satisfactory response rate than has been reported in many other studies of teacher stress.

It did not seem appropriate to select schools at random. To do so could have resulted in some sort of school, or schools in some areas, being inadequately represented. It would be quite possible, for example, for a random sampling technique not to identify any intermediate schools. We believed our sample should contain schools of different sizes (grades 1 to 5,) in different locations (urban, town and rural,) and of different types (full primary, contributing primary and intermediate).

In stratifying schools by location, places with a population of less than 2,500 were classified as rural. Town schools were in places with a population from 2,500 -

20,000, and urban schools in places with a population above 20,000.

We excluded integrated schools on the grounds that possible stress associated with integration required a separate study. We also excluded private schools, on the grounds that these also constituted an atypical group. Having stratified the remaining 209 schools in the North Island area of the Wellington Education Board, by size, location and type, we identified each fifth school in alphabetical order, from a randomly selected starting point.

THE SAMPLE OF SCHOOLS

The sampling procedure resulted in forty two schools. Table 4.1 shows how these were distributed on the original stratification by grade, type and location. Two points emerged when this table was compared with the original "pool" of schools from which it was derived. First, the

Table 4.1. Number of Schools in each Grade, Type and Location.

	GRADE OF SCHOOL					TOTAL
	1	2	3	4	5	
Full primary: urban	0	0	2	3	0	5
: town	0	0	1	1	1	3
: rural	5	4	1	0	0	10
Contributing primary : urban	0	0	7	10	2	19
: town	0	0	0	0	0	0
: rural	0	1	0	0	0	1
Intermediate: urban	0	0	0	0	4	4
: town	0	0	0	0	0	0
: rural	0	0	0	0	0	0
TOTALS	5	5	11	14	7	42

procedure of selecting every fifth school from a randomly selected starting point resulted in town schools being under-represented compared with urban and rural schools. In the original sample pool there were twenty four town schools (11.5 per cent of the total). The sampling procedure produced three town schools out of forty two (7.1 per cent). The second point was that our sample contained four "notional roll" schools (9.5 per cent of schools in the sample), whereas the sample pool contained ten of these schools (4.8 per cent of the total).

It was not felt that either of these points raised important problems. Even if the sampling procedure had produced five or six town schools, the numbers might still not have been sufficient to justify comparison between teachers in town schools and teachers in urban or rural schools. Notional roll schools are typically situated in areas with many educational and social problems. These problems might increase the stress experienced by teachers. On the other hand, notional roll schools receive additional staffing in recognition of the difficulties they face. It might be thought that the additional staffing would mitigate the effects of stress which might otherwise be experienced.

At the stages of sample selection, we were uncertain whether we would be able to analyse information from teachers at notional roll schools separately. If we could do so, the results might yield interesting information about the perceptions of teachers at such schools. Our immediate priority, though, was to ensure that the sample contained no unreasonable biasses.

Three other points should be mentioned briefly. The lack of any intermediate schools in our sample in grades 1-4 is simply a reflection of the size of most intermediate schools. Similarly, ten of the eleven rural schools in our sample were in grades 1 or 2. Almost by definition, rural schools are small. The relatively high proportion of urban schools reflects the number of schools in the main population centres of the Greater Wellington area, compared with all other areas administered by the Wellington Education Board.

THE SURVEYS

Items in each of the research instruments will be described more fully in future chapters. The intention here is to provide an overview, summarising the reasons for each instrument, and illustrating the basic structure of the research programme.

Pilot Study.

Questionnaires for principals were developed specifically for the project on the basis of existing information about teacher stress. One questionnaire for teachers was developed specifically for the project. Two were adopted for New Zealand conditions from questionnaires developed overseas. Three further questionnaires developed overseas were also identified for possible use. Two of these investigated aspects of health, the other focussed on stress.

The research team visited twelve primary schools in the Greater Wellington area in March and April 1981. At each school the principal was interviewed, and volunteers completed some or all of the questionnaires. Subsequently selected teachers were interviewed about the questionnaires. In particular, we asked whether they regarded any items as inappropriate or unnecessary, and whether they could suggest items which should be included. The questionnaire results were then analysed, together with the material from interviews. The information thus obtained was used to identify the most suitable instruments for use in the main studies, and to modify them where appropriate. Modifications included changes in wording, deletion of some items, and addition of others.

Survey of Principals.

The survey of principals contained three research instruments, summarised in Table 4.2. The Background Information Questionnaire (appendix 1a) requested biographical information about the principal, information about the school's zone, information about the school itself, and information about support received from advisory services. In addition, each principal was asked to provide a list of teachers, noting those with full-time class responsibility. This list enabled us to write to these teachers directly, requesting their participation in the survey. The semi-structured interview (appendix 1b) explored recent events that the principal had found stressful. It sought information about coping strategies, and about sources of stress, both for the principals themselves, and for their class teacher colleagues. The Stress Check List (appendix 1c) asked principals to rate sixty three items on a 1-5 scale. As noted earlier, these three research instruments were designed specifically for the study.

Survey of Class Teachers.

The class teacher survey contained four research instruments, summarised in Table 4.2. The Background Information Questionnaire (appendix 2a) requested biographical information, information about the respondent's current teaching situation, information about the stress associated with teaching specific subjects, and information about stress associated with other professional and personal events. This questionnaire was developed specifically for the study.

The Stress Inventory for Teachers (appendix 2b) was adapted for New Zealand conditions from Pratt's (1978) Classroom Event - Stress Inventory. It contained forty six items, each of which described an event or situation which could occur on a typical day. Each item was rated on a 1-6 scale. This inventory was to be completed on Monday, Wednesday and Friday of the survey week.

Research reported in Chapter 2 has demonstrated a relationship between satisfaction and stress. As it seemed desirable to explore this relationship further, and as we believed information on teachers' sources of satisfaction and dissatisfaction would complement the information on stress, we included the Satisfaction with Teaching Questionnaire (appendix 2c) in the battery. This was adapted from a questionnaire developed by the Australian Council for Educational Research (Ainley, 1981), which in turn was adapted from Holdaway's (1978) questionnaire.

Finally, the 36 item version of Goldberg's (1972) General Health Questionnaire was used to obtain information about symptoms associated with mental ill-health (appendix 2d). Each item was rated on a 1-4 scale, with higher scores representing poorer health.

PROCEDURE

We wrote to the principals of the forty two schools originally selected for study in April, seeking their co-operation in the project. A few days after sending the letter we telephoned each principal to ask if he was willing to take part, and to arrange a time to visit the school in June or July to interview the principal himself, and to meet the staff.

Table 4.2 Summary of Research Instruments.

Principals Survey	Class Teachers' Survey
Background Information Questionnaire: Principals	Background Information Questionnaire: Teachers
Semi-structured Interview	Stress Inventory for Teachers
Stress Check List for Principals	Satisfaction with Teaching Questionnaire
	General Health Questionnaire

At least a fortnight before visiting the school we sent the principal the Background Information Questionnaire. We collected this, together with a list of staff with full-time class responsibility, when we visited. In the meeting with staff we discussed some of the reasons for the research, and explained what would be asked of them if they agreed to take part. At some schools this meeting led to lively and critical discussion; at others teachers expressed general interest, but asked few questions.

In the second half of July each teacher was sent a package containing the questionnaires, instructions for completing them, and a stamped addressed envelope for their return to the research team. The instructions asked that the questionnaires be completed in the week beginning Monday, 3rd August, or, if that were impossible, the following week. Completed questionnaires were accepted for processing and analysis until Friday, 11th September inclusive.

On receipt, the questionnaires were checked for clarity. The data were then punched on to cards for entry on to the University's computer.

RESPONSE RATE.

Principals.

The principals of forty of the forty two schools agreed to be interviewed, and completed both questionnaires in the principals' survey. This represented a 95 per cent response rate. The principal of one urban school declined to be interviewed for medical reasons. He also made clear that he would prefer his colleagues not to be involved either. This request was respected. One two-teacher rural school was also dropped from the sample. When we approached the principal, he explained that he and his colleagues were about to leave, and relieving staff would be taking over for the rest of the year. In the circumstances, we felt the situation was too atypical to justify including the school in the study, even though a case study might have yielded interesting information.

Teachers.

Information from principals showed that 363 teachers in the forty participating schools had full-time class responsibility. By the 11th September dead-line, usable questionnaires had been received from 296 teachers (82 per cent). It is perhaps worth noting that questionnaires were received from 263 teachers (73 per cent) by Friday, 21st August.

Two teachers returned their questionnaires after the closing date, and a further seven wrote to say they could not take part. In five cases this was because of long term illness, and in the remaining two because they did not have full-time class responsibility. We received no information about the remaining fifty eight teachers who did not return usable questionnaires. It is interesting that eighteen of these teachers (thirty two per cent) came from two schools. The response rate at these two schools was fifty per cent and forty per cent respectively.

The immediate question is why so many teachers at these schools did not take part in the survey. We cannot answer this question with confidence, but have reason to think that they may have been experiencing high levels of stress at the time. At one of the schools, for example, there was evidence of differences of opinion between senior staff and class teachers on teaching methods. At the same school, the survey coincided with additional pressure caused by a school play and end of term reports.

We had recognised the possibility that our survey week might clash with other exceptional commitments at some schools. We had reluctantly concluded, however, that no time of the year would be entirely suitable. Moreover, since there was no possibility of obtaining replies spaced over the whole year, it was important that all participants should complete the questionnaires at the same time of the year.

It is clear that non-respondents do not constitute a representative group (Rutter, 1977). It seems quite possible that non-respondents in the present survey were experiencing high levels of stress. If so, the results of the survey might constitute an under-estimate of the prevalence of stress in the full sample. More optimistically, eighty two per cent of teachers did reply to a comprehensive battery of questionnaires. This response rate would be regarded as acceptable by most social scientists. It is certainly a great deal better than the response rates reported by most of the overseas studies of teacher stress reported in Chapters 1 and 2.

PART III

SURVEY OF PRINCIPALS

CHAPTER 5. THE PREVALENCE AND SOURCES OF STRESS FOR PRINCIPALS.

SCOPE

Questionnaires were completed by forty principals, all of whom also agreed to be interviewed. In this chapter we describe results on the prevalence and sources of stress. In the next chapter we describe evidence from the semi-structured interviews and discuss the relationship between the interview data and the questionnaire results.

We start by giving some biographical information about the principals themselves and then report the number who attributed varying levels of stress to their work as a whole. The sources of stress experienced by principals are reported in two parts. First we report potential sources of stress associated with "structural" matters, such as school buildings, "intake" variables, such as the number of pupils with problems at home, and selected "professional" variables, such as time spent filling in for absent teachers. Second, we report information from the Stress Check List for Principals. Because the sample was small, comparisons between groups of principals, for example, principals of urban schools compared with principals of town or rural schools, have to be regarded with caution. Nevertheless, some tentative results are reported. The chapter closes with a discussion of the results.

THE SAMPLE

Only three of the forty principals were women. This proportion was slightly less than in the country as a whole. The majority (82.5 per cent) were married, and two of the remainder were separated or divorced. Their age distribution is shown in table 5.1. It is seen that under a quarter were aged less than forty five. All but seven had

Table 5.1. Age Distribution of Principals in the Survey.

Age Range	Per Cent of Principals (N = 40)
25-29	5.0
30-34	7.5
35-39	5.0
40-44	5.0
45-49	32.5
50-54	20.0
Over 54	25.0
	100.00

had at least one child of their own. Their total length of certificated service ranged from 5.5/12 years to 40.6/12 years, with a mean of 25.7 years and a standard deviation of 9.2 years. Length of service as a principal ranged from one month to thirty six years, with a mean of 14.3 years and a standard deviation of 9.4 years. Thirteen respondents described themselves as teaching principals, (meaning that they had full-time class responsibility).

PREVALENCE

At the end of the Stress Check List we asked the question: "In general, how stressful do you find being a principal?" This question was, of course, an adaptation of the question used in England by Kyriacou and Sutcliffe (1978b) as an overall stress rating. Replies took the form of ratings from 1-5: not at all stressful; mildly stressful; moderately stressful; very stressful; extremely stressful. The results are shown in Table 5.2. They show that no principal claimed to find his work "very stressful" or "extremely stressful".

On the other hand, 65 per cent admitted to finding it "moderately stressful".

Table 5.2. Principals' Ratings of Overall Stress.

Question: In general, how stressful do you find being a principal?

Rating	Per Cent (N = 40)
Not at all stressful	7.5
Mildly stressful	27.5
Moderately stressful	65.0
Very stressful	0.0
Extremely stressful	0.0
	100.0

Comment

In England, Kyriacou and Sutcliffe (1980a) found in a series of studies that 20-30 per cent of secondary school teachers reported their work as "very stressful" or "extremely stressful" in answer to a similar question. Should we, then, conclude that the primary and intermediate school principals in our samples were a contented, stress-free group? In reporting the sources of stress from questionnaire results later in this chapter, we show that the answer is by no means straightforward. The interviews, described in Chapter 6, offer evidence that some principals were experiencing quite severe stress. The whole question of possible under-reporting will be dealt with in more detail in the second half of Chapter 6, where we discuss some methodological questions arising from the survey, and the possible implications for future work on principals. At this stage we only wish to observe that the results shown in Table 5.2 may give a misleadingly conservative picture of the prevalence of stress reported by primary school principals.

POTENTIAL SOURCES OF STRESS

Introduction

The Background Information Questionnaire was designed to elicit details about a wide range of variables. It was hoped that the information obtained would help us in compiling a profile of each school which would eventually assist in selection of schools for intensive study if it were possible to extend the research programme. However, we also used the Background Information Questionnaire for two other purposes. One was to obtain biographical information about the respondents, and information about their professional backgrounds. The second was to obtain information about selected potential sources of stress.

In the second respect, the Background Information Questionnaire inevitably overlapped to some extent with the Stress Check List for principals. For example, the Stress Check List contained an item: "Taking classes for absent teachers". The Background Information Questionnaire contained a question about the time spent filling in for absent teachers. This sort of overlap was intentional. One aim of the Stress Check List was to summarise the main sources of stress experienced by principals. Another was to identify the major groups, or clusters, of situations which they regarded as stressful. In contrast, parts of the Background Information Questionnaire aimed to provide more detailed information about selected variables. We hoped that they would provide a background which might help in interpreting some of the information from the Stress Check

List. The two main variables we shall consider now relate to the school's pupil intake, and to organisational or structural variables. It is important to be clear that we are not talking here about actual sources of stress. The Background Information Questionnaire was not designed for that purpose. What we are doing, is drawing attention to a number of potential sources of stress. These were derived from the literature, and from our early informal discussions with teachers at the pilot stage.

School District and Pupil Intake

We asked the principals to categorise the kind of district from which their school drew its children. In Table 5.3 we show that only 7.5 per cent of principals described their school zone as having high density housing and many families with low incomes. A further 12.5 per cent, though, described average to below average incomes as the norm for families in their zone.

A more useful measure of potential stress arising from a school's pupil intake may be the number of children coming from homes with some difficulty. As examples of "homes with some difficulty", the Background Information Questionnaire suggested: "over-crowding, only one parent, marital difficulties, family ill-health, poor standards of child care, unemployment etc". Although some of these may overlap with poverty or inadequate housing, others clearly apply to all income groups.

In their replies, 12.5 per cent of principals said that between 51-75 per cent of children in their school came from homes with some difficulty. A further 12.5 per cent said that 26-50 per cent came from such homes. Thirty per cent thought that this applied to 13-25 per cent of their pupils, while the remaining 45 per cent said it applied to less than 13 per cent. Thus, 25 per cent of the principals thought that over a quarter of the pupils in their schools came from homes with some difficulty.

Table 5.3. Principals' Classification of School District.

Classification	Per Cent of Principals (N = 40)
(a) In this district houses are closely packed together and many are in a poor state of repair. Multi-occupation is a common feature, and many families have low incomes.	7.5
(b) This district consists of less expensive privately-owned houses and/or state houses or flats. Multi-occupation is unusual and families have average to below average incomes.	12.5
(c) In this district houses are well spaced and the majority are well maintained. Multi-occupation is rare and most families have higher than average incomes.	20.0
(d) Both well-to-do and less well-off families live in this district. The houses are a mixture of those described in (b) and (c) above.	30.0
(e) This is a rural district consisting of scattered houses and/or small settlements. Families and houses are mixed as in (d) above.	22.5
(f) None of these descriptions fits the character of this school district.	7.5
	100.0

Some Structural and Administrative Variables.

As might be expected from the position nationally, 40 per cent of principals reported that their roll was declining. Only 7.5 per cent said it was rising, while the remainder regarded pupil numbers as stable. One question asked how the principal would "describe the level of the school's total financial resources, including money available from voluntary effort or donations". Possible replies were "higher than average", "average", or "below average". Half the principals circled the "higher than average" category, and 37.5 per cent "average". Ten per cent described their school's total financial resources as "below average" and 2.5 per cent (one principal) did not answer the question.

We asked how satisfactory each principal regarded six aspects of the school's buildings and school maintenance. The results are shown in Table 5.4. In each case, the replies indicated that less than one fifth of the principals regarded their situation as unsatisfactory. In the cases of "heating/ventilation of buildings", "care/ cleaning of class areas, offices etc", and "playground provision:space", over fifty per cent of the replies were "very satisfactory". Only half as many principals, though, regarded the quality, as opposed to space, of playground provision as very satisfactory.

When we asked about provision of equipment and teaching resources, the replies were more cautious, perhaps not surprisingly. Only twenty five per cent of principals regarded the situation as "very satisfactory", though sixty five per cent regarded it as "adequate". Since three

Table 5.4. School Buildings and Maintenance.

Question: How satisfactory are the following?

Item	Per Cent of Principals (N = 40)		
	Very Satisfactory	Adequate	Not Satisfactory
Physical condition of buildings (age), maintenance etc)	35.0	47.5	15.0 *
Heating/ventilation of buildings	55.0	32.5	12.5
Care/maintenance of grounds	40.0	45.0	12.5 *
Care/cleaning of class areas, offices etc.	62.5	35.0	2.5
Playground provision : space	60.0	22.5	17.5
Playground provision : quality	30.0	47.5	20.0 *

* Where the numbers in a row do not add up to 100 per cent, this is because one respondent did not reply to this question.

people did not answer this question, only five per cent were recorded as regarding provision of equipment and teaching resources as "not satisfactory".

As noted earlier, thirteen principals in the sample had full-time responsibility for a class in the school. We wondered how much time the twenty seven "walking" principals (ie those without full-time class responsibility) spent in the classroom, either filling in for absent colleagues, or releasing a class teacher for other activities. Twenty walking principals claimed to spend on average at least one hour each week in this way, and eight of these claimed to spend an average of four or more hours a week.

In the pilot study a number of principals commented that they spent less time filling in for absent colleagues than visiting classrooms and participating in class activities. They saw this as an important aspect of the job, giving an opportunity to provide support and professional leadership. It could also, however, be a source of stress, both for the principal and for the class teachers concerned. Twenty six walking principals answered a question about the average number of hours each week that they spent visiting classes. The range was between one hour and fifteen hours, with a mean of 6.2 and a standard deviation of 3.2 hours.

Comment

We noted earlier that the Background Information Questionnaire provided information about a number of potential sources of stress. It did not aim to investigate actual sources. Two further points to be borne in mind in considering the results are the small size of the sample and the constraints imposed by the decision to focus the investigation on schools in the Wellington Education Board. The results suggest that low income and inadequate housing in the school's zone are not seen as major problems by many principals. These variables could, however, be seen as sources of extreme stress by the three principals who replied that many families in their district had low incomes and lived in houses closely packed together. Later in the chapter we report criteria that this may indeed be the case.

It might be tempting to interpret the results as implying that most principals were satisfied with their school's funding. Only four principals reported the level of the school's total financial resources as below average. That does not, however, mean that they were necessarily satisfied with the available financial resources. In interview, many made clear that they relied heavily on voluntary contributions from parents, and on other funds raised by parents. Moreover, some principals clearly experienced a good deal of stress from their own involvement in such activities.

Two sets of results may legitimately be seen with more confidence as likely sources of stress. First, the number of children in homes with some difficulty exceeded 25 per cent in a quarter of the schools. The presence of such children can create stress for several different reasons. We discussed these in Chapter 2, and shall return to them again later in the report. Second, 40 per cent of principals said that their school's roll was declining. Falling rolls are a potential source of instability for pupils and of insecurity for staff. First, though, we need to consider the results of the Stress Check List for Principals.

STRESS CHECK LIST FOR PRINCIPALS

The Stress Check List for Principals listed 63 potential sources of stress, and asked principals to rate the degree of stress associated with each item over the previous two terms. The respondent was asked to circle the appropriate ratings, which were on a five point scale: not applicable; no stress; mild stress; quite a lot of stress; extreme stress. Three ways of analysing the results will be presented here,

(1) A mean rating was calculated for each item. Mean scores could not, however, show the distribution of

ratings associated with each item. The same mean score could be obtained because stress on a given item was widespread, but mild, or because it affected only a few teachers, but caused them a lot of stress. (2) We therefore summed the ratings of respondents who reported each item as causing "quite a lot of stress" or "extreme stress", to create a "substantial stress rating". For example, if seven respondents reported an item as causing "quite a lot of stress", and two reported it as causing "extreme stress", the substantial stress rating would be 38 (seven ratings of four, plus two of five). (3) Finally, we used the statistical technique of principal components analysis to identify groups, or "clusters" of items which respondents tended to answer in a similar way. The method is described in appendix 3c. Later in the chapter we report how evidence from the Stress Check List was used in a preliminary comparison between different groups of principals.

Results

Table 5.5 shows the items with the twelve highest mean ratings on the Stress Check List. Appendix 3a gives the mean ratings for all items. Table 5.5 and appendix 3a also show the correlation between each item and replies to the question: "in general, how stressful do you find being a teacher?" Table 5.6 shows the twelve items with the highest substantial stress ratings. Appendix 3b gives the substantial stress rating for all items.

Table 5.5 shows that principals experienced stress from a wide variety of sources, all of which were positively associated with overall stress. These sources reflected the varied nature of a principal's responsibility. The

Table 5.5 Items with the Highest Mean Ratings in The Stress Check List for Principals (Number of Principals = 40)

Rank	Item	Mean Item Rating	Pearson Correlation with overall stress
1	Management of school in wet weather	3.30	.57
2	The fragmented/interrupted nature of the day	3.13	.53
3	Own general work load	3.10	.43
4	Maintaining/raising educational standards	3.05	.50
5	Competence of teachers	3.03	.20
6	Purchase/maintenance of teaching equipment	2.98	.31
7	Maintenance of school plant	2.95	.20
8	Amount/nature of paper work	2.92	.43
9	Staff attitudes/values/behaviour	2.90	.19
=10	Parent attitudes/expectations	2.88	.49
=10	Inservice education policy/provision	2.88	.23
=10	Demands on after school time	2.88	.39

first two items, "management of school in wet weather", and "the fragmented/interrupted nature of the day" might perhaps reflect the stress associated with not feeling in command of events. Other items more explicitly draw attention to the professional and the administrative aspects of the job.

Table 5.6 Items with the Highest Substantial Stress Ratings on the Stress Check List for Principals (Number of Principals = 40)

Rank	Item	Substantial Stress Rating
1	Management of school in wet weather	66
2	The fragmented/interrupted nature of the day	61
3	Own general work load	60
4	Competence of teacher(s)	53
5	Conversion/remodelling of school buildings	50
=6	Purchase/maintenance of teaching equipment, eg audio-visual	49
=6	Staff attitudes/values/behaviour	49
8	Maintenance of school plant	45
9	Relieving staff policy/provisions	38
10	Staffing restrictions (teachers)	37
11	Maintaining/raising educational standards	36
12	Staff absenteeism/sickness absence	34

While there is some overlap between Tables 5.5 and 5.6, and between appendices 3a and 3b, there are also interesting differences. "Parent attitudes/expectations", for example, ranked equal tenth in Table 5.5 but does not appear in Table 5.6; (in fact it ranked equal twenty first on the substantial stress rating). The evidence suggests that the stress associated with this item was fairly widespread, but relatively mild. In contrast "conversion/remodelling of school buildings" was equal thirty fourth on the rank order of mean item ratings. Yet this item had the fifth highest substantial stress rating. The reason was clear. It did not apply to many principals, since there was no question of their buildings being converted or remodelled. When it did apply, it was typically associated with "quite a bit of stress" or with "extreme stress".

Clustering of Items on the Stress Check List.

One aim in carrying out principal components analysis was to identify items which principals tended to answer in a similar way. Another aim was to obtain information on the usefulness of individual items, so that the Stress Check List might be refined for future research on stress in principals. The procedure and results are described in appendix 3d. They are summarised here.

Four clusters of items, or "factors" were identified, and subscales derived from them. The factors were: "staff" (with thirteen items in the subscale); "work load/ administration" (seven items); "role conflict" (four items); and "meetings" (four items). A check on the internal reliability of the Check List (ie the extent to which ratings on individual items correlated with the mean rating for the Check List as a whole) suggested that thirteen items could probably be dropped without reducing the usefulness of the instrument.

The "staff" factor contained items such as: "staff attitudes/values/behaviour", "tensions among teachers" and "disagreement over teaching methods". The thirteen items in this subscale indicate very clearly the stress that may arise from professional leadership and supervision. The "work load/administration" factor contained a cluster of items which described professional and administrative responsibilities. Examples were "amount/nature of paper work", "evaluating pupil progress" and "management of the school in wet weather". The "role conflict" factor contained two items which implied inter-role conflict: "cleaning of the school" and "maintenance of school plant". It also included two items which implied intra-role conflict: "maintaining educational standards", and "conflicts of interests/loyalties, eg teacher/parents, teachers/pupils". Finally, the meetings subscale contained items dealing with staff meetings and P.T.A. or school committee meetings. Appendices 3a and 3b suggest that these items were relatively minor sources of stress.

Comment

The clustering of items in the four factors complements the evidence in Tables 5.5 and 5.6 in drawing attention to the varied demands on school principals. Even within the staff factor, the sources of stress are both varied and complex. Factor two identifies some of the professional responsibilities involved in a school's administration. Factor three identifies some of the other responsibilities, and illustrates the stress which can result from difficulty in reconciling them with the professional aspects of the job. Finally, factor four indicates the principal's need for skill in public relations.

COMPARISON BETWEEN GROUPS

Method and Scope.

We had three summary measures of stress experienced by principals. One was the overall stress rating derived from Kyriacou and Sutcliffe's (1980a) work. This was described

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above in the section on prevalence. The second and third summary measures were derived from the Stress Check List. One consisted of the mean rating of the fifty items which remained when thirteen had been discarded following the reliability check. The other consisted of the mean rating of all 63 items. These measures are known here as the Check List rating. The mean overall stress rating for the forty principals was 2.58, with standard deviation .64. The mean fifty item and sixty three item Check List ratings were 2.58 and 2.5e respectively, with standard deviation .39 and .33. In practice, the fifty item Check List rating yielded the most useful information, and is the measure used in the results reported below.

The aim was to see whether selected groups of principals differed in their reported experiences of stress. For example, did principals in urban areas experience more stress than principals in town and/or rural areas? Did principals who reported the physical condition of their school buildings as satisfactory experience more stress than principals who reported it as adequate or unsatisfactory?

Three statistical tests were used in the analyses. A one-way analysis of variance was used to investigate whether significant differences existed between the mean ratings of teachers in three samples, for example, principals who rated the condition of their school's buildings as very satisfactory, adequate or not satisfactory. When a significant result was obtained, Tukey's pairwise comparison* was carried out to show where the differences lay. The t test was used to investigate whether significant differences existed between two samples, for example principals who were currently undertaking formal study, and principals who were not. References to all tests are in Edwards (1972).

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*known elsewhere as the Multiple Range Test.

Type, Grade and Location of School

The type, grade and location of the principal's school all seemed relevant to his reported stress. There were significant differences between the mean Check List ratings of principals of contributing, full primary and intermediate schools ($p < .04$). The multiple range test showed that the principals of contributing schools obtained significantly higher scores than those of full primary schools. The mean scores of principals of grade five schools, grade four schools, and schools in grades one to three differed significantly ($p < .03$). The multiple range test revealed significantly higher mean scores in principals of grade four schools, compared with grades one to three. Principals in urban schools obtained significantly higher ratings than in rural and town schools combined ($p < .01$).

These results could be inter-related if there is an interaction between the schools' type, grade and location. The numbers were too small to investigate this with a two or three way analysis of variance. Moreover, it is possible that a disproportionate number of contributing schools were grade four, and in urban areas. We can calculate from Table 4.1 that fifty per cent of the contributing primary schools in the sample were grade four schools in urban areas. Moreover, seventy one per cent of the grade four schools were contributing primary schools in urban areas. The evidence on the importance of school district, described below, suggests that the critical variable may be the school's location, related to its pupil intake, rather than

Table 5.7 Differences between Principals in Mean Stress Check List Ratings: School Intake Variables

Variable and categories	One-way Analysis of Variance or T test	Multiple range test
School District (1) lower income/ average (N = 8) (2) well-off (N = 8) (3) mixed (N = 12) (4) rural (N = 9)	<.01	Groups 1 and 2 " 1 and 4
Per cent of children from homes with some difficulty - (1) less than 12% (N = 18) (2) 13-25% (N = 12) (3) 26-75% (N = 10)	<.01	Groups 1 and 3
Proportion of European children - (1) 0-75% (N = 28) (2) 76-100% (N = 12)	<.001	Not applicable
Proportion of Maori children - (1) 0-12% (N = 17) (2) 13-75% (N = 20)	NS	Not applicable
Proportion of other Polynesian children - (1) 0-12% (N = 11) (2) 13-50% (N = 19)	<.01	Not applicable

its grade or type. This does not, however, explain why principals of grade five intermediate schools did not differ significantly from their colleagues in grade one to three schools or full primary schools. All four intermediate schools in the sample were in urban areas, as were six of the seven grade five schools.

Pupil Intake/School zone.

Table 5.7 shows a clear tendency for stress experienced by principals to increase as socio-economic status in the zone decreases. Briefly, the greater the stress reported by principals, the lower the average income in the zone, the more children were thought to come from homes with some difficulty, the lower the proportion of children of European origin and the higher the proportion of non-Maori Polynesian children. Although higher numbers of Polynesian children other than Maoris were associated with high stress Check List ratings, this was not true to the same extent of Maori children. It may be that the presence of children whose first language is not English is as important a factor as socio-economic status or ethnic status per se.

School Buildings

Principals' Check List ratings differed depending on how adequate they considered their school's buildings ($p < .03$). Those who rated their buildings as very satisfactory had significantly lower ratings than those who rated them not satisfactory. Other structural variables, such as whether the school had a hall, or the amount or quality of playground space, were not related to Stress Check List ratings in any consistent way.

Biographical and Professional Variables.

Neither the principal's age, his length of certificated service, his length of service as a principal or his length of service at his present school were significantly related to Check List ratings. Nor was previous training in educational administration related to Check List ratings. On the other hand, teaching principals reported significantly less stress on the Check List than "walking" principals ($p < .01$). The eight principals who were currently undertaking formal study for professional or academic qualifications reported significantly less stress than the remainder ($p < .01$).

It is possible that the lower Check List ratings reported by teaching principals are an artifact resulting from the fact that they have smaller schools. On the other hand, teaching principals may experience less role conflict concerning other professional and administrative aspects of the job. Moreover, regular teaching may help to mitigate the effects of stress from administrative responsibilities. The implication that formal study may help in coping with stress is an interesting one. The formal study may act as a valuable outside interest, enabling the principal to concentrate on something other than school. Alternatively, it may actually assist the principal in his work at school. A third possibility is that principals who undertake formal study are exceptionally ambitious and/or well organised. As a result they may either be better able to cope with stress, or more likely to deny its existence.

Professional Support.

Stress Check List ratings were not significantly related to the degree of support which principals felt they received from the inspectorate or from psychological services. Ratings of the eight principals whose schools had a pool reliever scheme did not differ significantly from the remainder. On the other hand, principals who reported substantial help from parents reported significantly less stress than principals who reported that they only received some help, or little to none ($p<.04$). Related to this, the total financial resources available to the school were also associated with differences in Check List ratings ($p<.04$). Principals who thought their schools enjoyed above average financial resources reported significantly less stress than those who reported below average resources.

Financial resources include voluntary donations and funds raised by parents. They may, of course, be more readily available to principals whose schools serve socially privileged areas. Principals of schools in less privileged areas may have to contend not only with lower parental interest, and perhaps learning or behaviour difficulties in pupils related to this, but also with inadequate financial resources. "To them that have shall be given..."

COMMENT

Nearly half the items on the Stress Check List had a mean rating below 2.5. Similarly, nearly half had a substantial stress rating of less than sixteen. The number of items which received relatively low ratings was to some extent attributable to constraints imposed by the nature of our research. The Stress Check List was developed from the rather scanty literature on stress experienced by school principals, and from discussions in the course of our necessarily brief pilot project. This falls far short of what is ideal in developing a research instrument of this kind.

Evidence from principal components analysis of the Stress Check List suggests that it could be shortened without losing its usefulness. Indeed, in the comparison between groups of principals, the fifty item version seemed considerably more useful than the original sixty three items.

Two possible problems in the Stress Check List should be mentioned at this stage. First, it is not clear whether the results constitute an equally valid measure of stress for all principals. Principals of rural or town schools, for example, reported significantly less stress on the check list than principals of urban schools. Evidence from interviews with principals of rural schools suggests that personal issues such as housing, travel costs, lack of privacy and physical isolation may be important sources of stress for them. The Stress Check List did not focus on these. Hence, it may be a less valid research instrument for rural or town school principals than for principals in urban areas.

Second, the Stress Check List contains a conceptual problem which is found in many research instruments of its kind. Because it investigated a wide range of potential sources of stress, it also compared different sorts of stress. This problem was hinted at earlier, in connection with Tables 5.5 and 5.6. There are two issues. First, some items may be severe sources of stress to a few teachers, yet may not apply at all to the majority. An example is "conversion/remodelling of school buildings". Second, some items may reflect chronic stress, which may or may not be severe, while others may deal with events which occur infrequently, but may be associated with extreme stress when they do occur. An example of the first is "amount/ nature of paper work", and of the second "inspectors" visits. The evidence in Tables 5.5, 5.6 and 5.7 tends to suggest that, for principals, the chronic stresses are the ones which concern them most.

OVERVIEW

The Background Information Questionnaire and the Stress Check List for Principals aimed to obtain fairly wide-ranging information about the prevalence and possible sources of stress experienced by a fairly small sample of primary school principals. Partly because there had so far been little work on principals' experience of stress, and partly because of the constraints imposed by a twelve month project and by the need to carry out a somewhat more comprehensive survey of class teachers, the survey of principals was seen as an exploratory study. Bearing these limitations in mind, it demonstrated that principals perceived a wide range of professional and administrative responsibilities as stressful. It also demonstrated the importance of a school's zone and pupil intake on the principal's experiences of stress.

Conclusion

We noted in Chapter 1 that questionnaire results seldom give the reader much idea what it feels like to be experiencing stress. A long-term participant observation study may be needed to gain any deep understanding of what it feels like to be a teacher under stress. Our interviews with principals had much more limited aims. They did, however, provide interesting examples of stressful experiences. In the next chapter we discuss some of these, and relate them to the questionnaire results.

CHAPTER 6. INTERVIEWS WITH PRINCIPALS

INTRODUCTION

Aims and Scope. The interview with principals aimed to supplement information obtained from the questionnaires. We also hoped that it would identify limitations in the Stress Check List for Principals, and thus help in refinement of this instrument to increase its usefulness for further research workers. In the last chapter, for example, we mentioned the possible limitations of the Stress Check List for rural principals. Another reason for visiting each school and interviewing the principal was to obtain information which might assist in identifying schools for intensive study.

Systematic content analysis of interview data can be a highly fruitful exercise. It is also an extremely time-consuming one. When planning the interview we did not intend to analyse it in this way. We believed that such an analysis could profitably be carried out as part of a more intensive study of a smaller number of schools. Our aims, as stated above, were more limited.

The interview (appendix 1b) contained twelve questions. The first five dealt with the school zone, pupil and teacher turnover, staffing, and the way the school was organised for teaching purposes. The next six questions asked about the principal's own experience of stress, and the ways he coped with stress. The last four questions sought the principal's views about sources of stress for teachers in the school, the effects of stress on them and ways in which the principal felt that he could help teachers cope with stress. In this chapter we are concerned only with the background, and with the principals' own experiences of stress.

Method. The interview was semi-structured. Although each question was asked at some stage, the order varied according to the circumstances. Follow-up questions were asked where appropriate with the result that one question might result in prolonged discussion on a wide range of issues. This flexibility was necessary. Some principals had very clear ideas about what they wanted to tell us, and we had no wish to inhibit or restrict spontaneous information. A second and perhaps more important point was that the interview focussed on personally and professionally sensitive issues. Not surprisingly, some respondents seemed tense at first. In such cases, the task of the interviewer was to create a relaxed climate while retaining the minimum level of structure necessary to complete the interview. Most of the interviews were completed in one session. This session varied in length, however, from less than one hour to more than three. As noted earlier, the research officer had a meeting with the staff on the same day as the interview with the principal.

BACKGROUND

The school visit often provided indirect evidence about the principal's style of leadership. In the following extract from field notes, the researcher commented on a principal's relationships with children, on his management style, and on tension in the interview itself:

"Friendly, informal manner; laughs readily. During tour of school (he) stopped frequently to greet children and ask or comment about something personal. Speaks very quickly, and was hard to keep up with ... seemed conscious of my writing; I felt a tape recorder could have been far superior here. Impression that he has his strategies for management of time well oiled. The only interview to date which fitted readily into the hour. (It had to, because of a post school staff meeting.) Note: he showed the same skills in managing the end of staff meeting; closure applied deliberately. Not a relaxed interview, and verged more than others to superficiality."

At another school the field notes commented on the principal's personal qualities, and on the open, relaxed atmosphere amongst the staff:

"Principal identifies values clearly and expresses them convincingly. Is he a born democrat, or the most subtle of benign dictators? . . . he is expansive, easy, extending a kind of all encompassing warmth which included physical contact to guide me in. Can imagine how readily most parents would feel at ease with him. An avowed pragmatist ... nearly all staff were gathered in staff-room, where one of them was supervising tea/coffee making Unusually relaxed atmosphere among staff and between principal and staff. The only school I've been in where words like open, democratic, informal seemed markedly apt... it quickly became obvious that there was a general concensus about the relative lack of stress in the school ..."

The first questions in the interview were whether the principal thought there were any special or unusual features in the school district, and whether the school aimed to serve any special local needs. The intention was to start the interview by seeking factual information, since it seemed inappropriate to ask about potentially sensitive issues at this stage. We also hoped, though to gain some idea about the principal's perception of possible problems in the school zone, and to gain some idea of the extent to which he saw the school as able to tackle them.

Sometimes this first question led the principal to identify important sources of stress which might arise from within the school's zone but were aggravated by attitudes of staff colleagues. The principal of an urban school said:

"I did country teaching until I came here. A thing that struck me was the boisterousness of the children ... they run everywhere, full of life. I'd never had problems with vandalism and grafitti before; coming here and finding things written on walls like: 'so and so's a fucking cunt', upset me, and I felt the teachers had become conditioned. They just didn't get uptight when things happened - just accepted them."

These two themes, of pupil behaviour and staff attitudes recurred throughout the interview. The principal of a rural school mentioned the pressures which living in a small country community can place on a principal. These, too, were themes which recurred throughout the interview.

"The previous principal had had a very difficult time over-all. He was probably pressurised out of his job. They decided that he wasn't their cup of tea ... living in a rural community, you're there all the time. The phone can ring at 9.00 p.m. and it's something about the school. Living on the spot, sometimes you feel you want a break".

PRINCIPALS' EXPERIENCE OF STRESS.

The twelve items with the highest mean ratings on the Stress Check List for principals fall into four broad groups: (i) day-to-day administrative activities related to the school environment and resources; (ii) control or management of time; (iii) concerns about teachers; (iv) concerns about educational standards. We consider each of these in turn, and then discuss some sources of stress which were described in the interviews, but did not feature to the same extent in the Stress Check List.

Day-to-day Administrative Activities. The principal is responsible for the smooth running of the school. This means that he has to cope with unavoidable disruption, such as that caused by wet weather. It also means that he has to ensure that staff have the necessary teaching equipment, and to do his best to obtain equipment which they consider desirable, even though it may not be strictly necessary. In addition, he is required to inform the appropriate authorities of any break-down in school plant, for example, plumbing, heating, or electricity failure, and of any structural damage to the school, whether caused by vandalism, wear and tear, or Act of God. Having informed the authorities, he then has to ensure that they take the necessary action. On this theme, a rural school principal said:

> "Relationships with the Education Board can be a bit of a headache. We've got this new classroom. We became eligible the middle of last year, but the classroom only arrived at the end of the first term this year. We had to wait and wait and wait for the electricity and heaters, and it's still

> not finished. It still hasn't got any heaters, and it's winter. The work agreed to at the maintenance survey one year ago still hasn't been done".

This principal recognised that the Board was not deliberately being unhelpful. On the contrary, they wanted to help, but they had great difficulty in obtaining contractors to do the work.

A number of principals mentioned their routine bureaucratic responsibilities. One said he spent two and a half hours every Monday morning dealing with problems caused by vandalism over the weekend. Later in the interview he mentioned another issue:

> "And cleaners take up a lot of time. We have to administer their pay. I don't mind, but it's another thing to do. Is it really teaching? It's administrative, and we're not trained for it. We've come up through the ranks in the country schools until we've won enough grading to get a school like this that can see us through our dotage".

This principal felt frustrated because he was unable to spend as much time with children, or supporting staff as he considered necessary. He was trained as a teacher, and still saw himself as a teacher. Yet much of his time every day was spent on other tasks. It would be trite and misleading to conceptualise this as role conflict. Certainly, he and many other principals did experience stress on account of the varied roles they were expected to fill, often simultaneously. In one sense, though, they felt little conflict, at least as far as administrative matters were concerned. They recognised that administrative chores were unavoidable, even if they resented the fact. It may be that stress was not caused by the administrative chores as such, but rather by lack of experience in managing time and priorities. Some principals seemed overwhelmed by administration; others seemed to take it in their stride, yet still find time to spend in "professional" activities with colleagues or in the classroom.

The smooth running of the school can be upset by damage to buildings or plant, or by inadequate teaching equipment. It can also be upset by wet weather. Children have to remain inside at lunch time, and in the morning and afternoon breaks. In a confined space, noise levels can escalate. Supervision can become more difficult. Tempers of children and staff can become frayed. The principal, though remains ultimately responsible for maintaining a reasonable level of harmony in difficult circumstances.

We should add that this became clear only in retrospect. The item, "Management of school in wet weather" was added to the Stress Check List as a bit of an after-thought. We certainly did not expect it to head the list (Table 5.5). Indeed, few principals mentioned the weather during the interview as a factor in their own, or their colleagues', stress. One experienced sole-charge principal said:

> "The main source of stress here is wet days. (Q) children get a bit high. It's dreadful if you have an inspection on a wet day".

While it is clear that management of the school in wet weather does cause principals stress, the reason is less obvious. Wet weather may, for example, increase the pressure on children, and hence lead to an increase in misbehaviour. The increase in misbehaviour may increase pressure on teachers, who may transfer it to the principal by referring more cases of indiscipline. Alternatively, wet weather might simply reflect teachers' concern, and perhaps complaints, at having to supervise children during breaks and lunch time. For the principal this could be stressful as there is little he can do to resolve the problem, either by controlling the weather or by providing relief for teachers.

Control or Management of Time. This clearly overlaps with stress arising from day-to-day administrative activities. Stress can result from a single critical event, or it may represent the cumulative impact of a series of incidents experienced over the day or week. The principal of an urban school gave a vivid picture of the varied demands made on him:

> "I think the worst thing is the continual switch from job to job, one moment seeing children - a professional thing - and the next moment a totally non-professional thing. One moment the dairy rings up and wants to speak to the principal, and your secretary can't take a message. Next it's a parent; then a child; then a teacher with a syllabus problem, then talking to the Board about a sewerage problem. I'm enjoying it, don't get me wrong! But I don't prepare work at home now because I never know what's going to happen during the day. I've been trying to get into one teacher's

> room for two weeks, and today is the first time I've managed it. And then the inspector rings to say: 'What curriculum areas are you developing?'" (Spoken in a very portentous voice!)

The principal of another urban school kept a diary log of events for one week. Events cited for one morning included: a search outside the school for a missing new entrant; an unscheduled visit from an inspector during the above search; a personal discussion with a social welfare officer over a custody case; dealing with an injured child.

In smaller schools the pressures are intensified because there are fewer people to share the responsibilities. Moreover, the pressure to keep abreast of curriculum developments can seem greater. The principal of a two-teacher rural school said:

> "In a larger school the responsibility is shared around. Last week I went to a NZEI meeting, and someone said: Why hadn't I been at the gymnastics meeting? There's only one of me, and umpteen meetings! ... And this morning there was no water. I've been running round in small circles all day. These things aren't stressful individually, but they're all there, and the combination is. There's everything to do, and it can only be done by one person. Like just now (soon after the interview started) when we had a parent come in to enrol a child".

Another teaching principal talked about the effect of interruptions on his own teaching practice:

> "Being in a teaching principal's job, I find the

> interruptions frustrating. You're drawn out of the classroom frequently. You tend to lose continuity with the class and you look more for programmes that will occupy the children."

Another aspects of this is the need to be "all things to all people", with a consequent difficulty in measuring one's achievements. Getting into the classroom seemed to offer a welcome respite for one principal:

> "If I have to relieve in a classroom if a teacher's away I find it less stressful than it is here, compared with all the demands on you as a principal. People wanting this and that, having to do something about something a child may have lost"... "The best job I ever had was years ago when I used to go scrub cutting in the holidays. At the end of the day you could see exactly what work you'd done. That was fantastic!"

Concerns about Teachers. Any principal might legitimately claim that his first priority was the welfare of children in the school. Just as legitimately, he might see the welfare of staff as his first priority. If teachers are unhappy or dissatisfied, the quality of their work with children inevitably suffers. For a principal, stress can arise for a variety of reasons. A difference in personality or in basic values can lead to friction, even when the principal and a teacher like and respect each other:

> "Fred's an energetic, lively customer, yet there are things about him I'm not happy with. Like his language: he's fairly free with

> his language, even with parents in the staffroom. His values are different from mine about this, even though I get on with him".

Sometimes, though, the conflict is more serious. The principal of a large urban school described a problem with a senior teacher:

> "I try to treat the staff as equals ... but this particular teacher just can't come in here freely ... She creates a discipline problem with children she tries to punish corporally. They're the sort of children who have had too much of it already. She's very stringent - won't help with any special activities, and that sort of thing. I've had to withdraw the responsibilities she did have, and give them to others".

The problem here lay partly in the fact that the principal felt that the teacher was placing him "on a pedestal". He experienced stress because, he felt, the teacher saw him as unapproachable. This was compounded by a feeling that the teacher's disciplinary techniques were inconsistent with the sort of relationships he was trying to create in the school as a whole. Stress can also arise from the need to protect a member of staff:

> "I would think the most stressful thing was when my STJC had a stroke. She returned to school and I got her relieved from the classroom situation, but she tended to want things as they were. The teachers were doing a good job, though, so I had to keep her off their

> backs and let them get on with it. What she was doing was not unreasonable in that she was checking up on their work ... but then the friction got into the community but I managed to keep it from her."

The conflict in such cases is frequently over the best approach to take, as the following interview extract shows:

> "I think it's stress when you take it home and worry about it ... I do this quite a bit. How can I do this? For example, talk to a teacher without offending or knocking them. What's the best way? It's very difficult to decide and you seem to offend no matter which way you approach."

Concerns about Educational Standards. Concern about educational standards overlaps with concern about teachers. The principal of an intermediate school described the problem vividly:

> "I think the other thing (that causes stress) is when parents feel obliged to ring up and complain. And you know damn well they're right - they're spot on! And you have to do something about it. There's a conflict of loyalty to teachers, parents and children. I can often do something about it, like putting them in a special group. But the thing that worries me is you can't test every child."

Later in the same interview the principal explained other reasons for feeling concern about the children's progress:

> "Half our school population is reading at a reading age around six and a half to seven. There's a small group who achieve very well, and a lot who lack any sort of skills. (Q) I believe it's the fault of the education system. The accent is on oracy rather than basic skills. The basic skills mostly aren't taught, and haven't been taught. You find bright kinds, and put them in a remedial reading group and they take off. You wonder why that hadn't happened before ... I was amazed when I got here and found teachers accepting work which teachers at my last school wouldn't have accepted from Standard 2".

For the teaching principal of a small rural school the problem was different. His concern lay in the need to interest a wide age-group:

> "I've got every age group here except Standard 2. At the end of the week, you think: "gee what have I covered!" I spend three quarters of an hour in reading each day, and five sixths of that time I spend on the youngest group. I've been in multi-classes before; but in social studies, do you cover the same thing with all of them? The Standard 3 to Form 2 make quite a good group, but the little ones are different. Do you take three

> groups, like in maths, or work them all together? I was looking at some of the young ones today and (the work) wasn't holding their attention."

This sort of pressure is inevitable when teaching a wide age-range, or ability range. Principals have the added stress of responsibility to parents. Other teachers can look to the principal for support. The principal has to deal with the problem himself.

Stress for Principals of Rural Schools. In the last chapter we noted that the Stress Check List may not adequately have investigated sources of stress for rural teachers. It was clear from interviews with principals of rural schools that the job could be immensely satisfying. It could also be extraordinarily stressful. Revealing comments were made by two principals, both of whom enjoyed rural life. The first had previously been at another rural school in a remote farming community:

> "The teacher (before me) had been asked to leave by the Board. The previous one had had a petition passed around about him ... he was living with a girl. The one before had lasted three years, and the one before that had had a nervous breakdown".

The second had come from an urban school, and was enjoying country life. Yet he added:

> "Since I've been here, I've seen four principals forced out of their jobs, or had a terrible time. Being a principal in

> a country school, if things go sour there's nothing worse. You often don't get support from people who should help you ... last year a single man came to a school near here, but they didn't want a single man. He was a steady teacher, not dynamic but steady. But he got on the wrong side of a member of the school committee, and there was a lot of unpleasant pressure to get rid of him. Gradually it got so bad he had a blow-up with the secretary. He found he couldn't trust people in the community who he thought he could trust, and eventually got a transfer.

Rural school principals are more "visible" in the community than their colleagues in towns or urban areas. Stress can result from this in two ways. One is that parents feel free to ring them about children after school hours, sometimes quite late at night. One parent, worried about his son's behaviour, had telephoned the principal every night the previous week, sometimes as late as 9.15 pm. In a rural area the principal is never "off duty". The second is that they may need to exercise considerable diplomatic skill to avoid becoming embroiled in disputes between members of the local community. One principal discovered on taking up his appointment that [illegible] member of the school committee had laid an assault charge against another parent, and that some parents were said to be afraid to send their children to school, fearing that the problem might spill over into the classroom.

Nor are the financial advantages of country living at all obvious. Teachers in rural areas frequently live in a school house which goes with the job. With inflation, and the steady rise in house prices, they can feel at a disadvantage if they transfer to an urban area and need to buy a house of their own. Moreover, country life itself can be expensive. A principal whose previous job was in a remote rural area commented:

> "My wife and I love country living and love country schools. The reason we left the last school was it became too expensive to go on living there ... in the time we were there the remote allowance was $97 a year. During that time petrol went up $1.50 a gallon. We'd go through a set of tyres every eighteen months. You'd pay 10c extra for a pint of milk. Economically I'm $1,000 better off here on the same salary".

PRINCIPALS' COPING STRATEGIES.

We asked principals what they found the most effective ways of coping with stress they encountered at work. In reporting some of their comments we are not offering an exhaustive analysis. Our aim is a more limited one of drawing attention to a number of recurring themes.

Kyriacou (1980) described three groups of coping strategy from his sample of English secondary school teachers: talking to other teachers; considering their situation and taking action to relieve the stress; and forgetting about stress at work by directing their attention on to other things. Principals cannot easily talk to other teachers in a school about some of the stresses they experience. The other teachers may be the source of stress! Contact with other principals was, however, perceived as helpful by several respondents. Sometimes this contact was organised ostensibly to facilitate sporting contacts. It was also seen, though, as a form of useful mutual support. A characteristic of coping strategies is that they evolve gradually often without conscious planning. The process can be seen as a kind of trial and error learning. This sort of learning can be effective, but often takes a long time, and can lead into blind alleys - or worse. One principal expressed his fear of making a situation worse, as a colleague had done.

> "Sometimes I think I ought to crack down on the staff more, but it's hard to know sometimes. I knew a principal who caused a situation to become worse. Because some teachers were leaving school too early he ruled on it. The effect was that the other teachers joined in opposition to the ruling - not openly, but they just sat in the staffroom until it was time to go, instead of working".

This is an interesting example of a coping strategy which exacerbated the situation instead of relieving it. Another principal had learnt a different approach, which teachers seemed to find more acceptable:

> "If I see something displeasing, for example, something a teacher hasn't done, like put in

> a work-book, I don't accuse. Instead I ask: 'When is it going to be done?' I've learnt to ask the questions in a better way, and you usually find there's a perfectly reasonable answer. I used to go home and sweat about just how to talk to the teacher concerned. This way there's generally no problem, and no need to worry about it".

Standing back, and looking at the problem dispassionately was seen as necessary by many principals. One said:

> "You can be too slow to act, or too fast, but you want to consider things carefully. If there does seem to be something that's cropped up, give it time. That's the way I approach it."

In this connection, family life was often seen as an important source of support. A typical comment was:

> "I find it helpful to have a wife who's sympathetic. She listens and shares an opinion, and that's a very great assistance."

In contrast, some principals emphasised the necessity to do something completely different after work. They found it helpful to "switch off" by concentrating on a hobby or by taking exercise, as the following extract shows:

> "I go jogging with my dog. By the time I've run seven kilometres across the fields, I've sweated like a pig, run my guts out, and forgotten all about the school! You've got to cope with the situation at school. Solve the problem there. Don't take it home".

DISCUSSION AND CONCLUSIONS.

This chapter has not offered an exhaustive analysis of the sources of stress which principals mentioned in interview, nor has it attempted an exhaustive analysis of their coping strategies. The aim has been to illustrate some of the points which emerged from the Stress Check List and, in the case of rural school principals, to identify some sources of stress which were inadequately covered in the Stress Check List.

When answering the question: "In general, how stressful do you find being a principal?" (at the end of the Stress Check List) no principal replied "very stressful" or "extremely stressful". Yet information from the interviews suggests that some principals were experiencing very considerable stress. It is worth considering two possibilities. One is that the stressful incidents they described in interview were unrepresentative of their overall feelings about the job. The second is more complex. Perhaps people in positions of authority may be reluctant to admit that they are under stress. To do so may feel too much like an admission of failure or of personal inadequacy. Moreover, if you have ten, fifteen or twenty years until retirement it may become correspondingly more difficult to admit that the job is unacceptably stressful.

Data from the interviews complemented data from the Stress Check List. Had our primary aim been to construct the Stress Check List as a new research instrument, it would have been more appropriate to finalise items for the Check List after analysing the interviews. Construction of a new research instrument was not, however, one of our primary

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aims. The Stress Check List elicited some interesting results, and with further refinement it could be developed into a useful research instrument. The interviews, though, produced richer and in some ways more fruitful data. Analysing such data is extraordinarily time-consuming, yet potentially enables the researcher to construct a picture which is both more comprehensive and more vivid.

It would be wrong on the present evidence to form many conclusions about principals' strategies in coping with stress. It is nevertheless noteworthy that several principals commented critically on their lack of suitable training for the job. A principal with previous experience as an inspector commented on an aspect of this:

> "I saw a lot of stress in principals because teachers hadn't got the right equipment. If it's not basic equipment, it's got to be bought, and it's a matter of the principal being a salesman, (eg fund-raising activities,) and principals aren't trained for that in any way whatsoever".

It is clear that management and administrative responsibilities are a source of stress for many principals. The same applied to the perceived lack of time, and to conflict or disagreements with colleagues. At the very least, our evidence suggests a need for inservice courses for principals, especially newly appointed principals, with an emphasis on management of time, dealing with administrative responsibilities and interpersonal skills.

PART IV

SURVEY OF CLASS TEACHERS

CHAPTER 7. PREVALENCE OF STRESS, ILL HEALTH AND ABSENCE FROM TEACHING

INTRODUCTION

We are dealing in this chapter with the number of teachers who find their work stressful. We are not dealing with the sources of stress. These will be described in the next chapter. We are also concerned here with the number of teachers reporting poor health, with the symptoms they reported, and with their absences from work. Finally, we shall discuss the relationship between stress, health and absence from school.

Theoretical Considerations. Many medical conditions from increased susceptibility to minor infections to coronary heart disease, are often associated with feelings of stress. This is not controversial. What is much less certain is whether illness should be seen as the cause or as the effect of stress. Hence, it is not immediately clear how far evidence about teacher's health is relevant when discussing the prevalence of stress. Evidence on the prevalence of health problems certainly cannot be equated with evidence about stress. Yet evidence about health may legitimately be seen as supplementing evidence about stress. This argument is strengthened if the health data relates to symptoms which are known to be associated with poor mental health.

Problems can also arise in attempts to explain the significance of absences from work. While absenteeism is often seen as a result of stress, many absences may clearly be unrelated to stress. Two points are relevant here. First, stress may be a contributing factor in any illness, though probably not a casual one; psychosomatic symptoms, for example, may be precipitated by stress, but are only likely to appear in individuals with a constitutional predisposition. Second there are no clear criteria for illness-related absences. Whether a teacher takes a day off may depend as much on her current feelings about the job as on the "objective" severity of the illness. One principal implicitly acknowledged this when he claimed to have found a relationship between absences and duty days.

METHOD

In the Background Information Questionnaire we asked teachers the question originally posed by Kyriacou and Sutcliffe (1977a, 1978b, 1979): "In general how stressful do you find being a teacher?" Replies were rated on a five point scale: not at all stressful, mildly stressful, moderately stressful, very stressful, extemely stressful.

Information about teachers' health was obtained in two ways.

(1) In a Background Information Questionnaire they were asked to state which of five general descriptions best fitted their current state of health. The descriptions are given in the Results section below. They were derived and first used by Borland (1964). We included them in order to compare Borland's national sample in 1962 with our sample of Wellington Education Board Teachers in 1981.

(2) Teachers were asked to complete the thirty six 'best items' version of Goldberg's (1972) General Health Questionnaire. This questionnaire has been widely used in epidemiological

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research as a screening instrument to identify people who are at risk of , or possibly suffering from, minor psychiatric disorder. A further reason for using the General Health Questionnaire was that Pratt (1976) used it in his study of stress in primary school teachers in Sheffield, England. Thus, we would be able to compare our results with Pratt's.

Information about absences from teaching was obtained from two questions in the Background Information Questionnaire. The first asked: "How many days since the start of the first term this year were you absent because of your own illness?" The second asked: "How many of these were for one day only?". In this way we hoped to distinguish between the total number of absences, and the number of temporary absences which might possibly be associated with "voluntary" - or stress-related - withdrawal from work.

In analysing the results the first step was to obtain descriptive information on the measures of stress, health and absence from work. In each case the information was based simply on the number of teachers replying positively to each item. In the case of the General Health Questionnaire it was then possible to use Goldberg's criteria to establish the number of teachers at risk of non-psychotic minor psychiatric disorder. The questionnaire asks respondents to rate aspects of their health on a four point scale. For example, possible answers to the question: "been feeling perfectly well and in good health?" are: better than usual, same as usual, worse than usual, much worse than usual.

The questionnaire is scored as a bimodal response scale; in the above example, each of the first two replies would be scored 0, and the last two would be scored 1. Hence, possible scores range from 0-36. The higher the score, the greater the respondent's likely need for psychiatric treatment. The recommended "cut-off" point is a score of 6, implying that people with scores above six become increasingly likely to need psychiatric help. In addition, principal components analysis was used to identify clusters of items which respondents tended to answer in a similar way.

PREVALENCE OF STRESS

Replies to the question: "In general how stressful do you find being a teacher?" are shown in Table 7.1. It is seen that 12.5 per cent of teachers (one in eight) reported finding their work "very stressful" or "extremely stressful". Another way of looking at the results, though, is that 94.3 per cent of teachers found teaching stressful to some degree.

Table 7.1 Teachers' Ratings of Overall Stress.

Question: In general, how stressful do you find being a Teacher?

Rating	Per cent of Teachers (N = 296)
not at all stressful	4.1
Mildly stressful	31.8
moderately stressful	50.0
very stressful	11.5
extremely stressful	1.0
not known	1.6

PREVALENCE OF POOR HEALTH

Borland's Categories: Replies obtained in the present survey and in Borland's (1964) survey are shown in Table 7.2. No teachers in either survey complained of frequent or chronic ill health. There does, however, seem to be considerable evidence that more teachers were concerned about health problems in our survey than in Borland's. By combining the two categories: "energy sufficient for ordinary work; little resistance to colds and periods of extra strain," and "vitality low, inclined to worry over work, daily routine seems heavy," we account for twenty six per cent of respondents, compared with 13.3. per cent in the earlier study.

General Health Questionnaire: Table 7.3 shows the distribution of scores on the General Health Questionnaire, with a line indicating the conventional "cut-off" score of six. Hence, at the time of our survey roughly forty four per cent of the 296 teachers reported a range and severity of symptoms that would place them at risk of minor, non-psychotic psychiatric disorder. The most frequently noted complaint was a feeling of lack of energy, reported by forty nine per cent of teachers. Other complaints also reported by over forty per cent were feeling "run down and out of sorts", not feeling "perfectly well and in good health". Thirty eight per cent said they felt "constantly under strain". The per cent of respondents reporting symptoms on each item is given in Appendix 4a.

Table 7.2 Teachers' Health: Self Ratings

Description of Health	Per cent of Teachers in current survey N = 296	Percent of teachers in Borland's 1964 survey N = 378
Exceptionally good health; constant feeling of vigour; plenty of energy,	6.8	16.7
General good health; enough vigour to stand extra strains; occasional illnesses	65.2	70.0
Energy sufficient for ordinary work; little resistance to colds or periods of extra strain	20.9	11.2
Vitality low, inclined to worry over work, daily routine seems heavy	5.1	2.1
Frequent or chronic illhealth work accomplished only by effort	0	0
Not Known	2.0	0

Table 7.3 Distribution of Scores in General Health Questionnaire

Score	Per cent of Teachers (N = 296)
0-6	55.7
7-12	18.2
13-18	12.2
19-24	7.8
25-30	3.7
31-36	2.4

Details of principal components analysis of the General Health Questionnaire are given in Appendix 4b. The underlying methodology is described in appendix 3c. Five factors were identified, and subscales derived from them. The factors were "Under pressure", (with thirteen items in the subscale); "run down", (six items); "loss of confidence", (seven items); "sleep problems", (four items); "depression", (three items). The label for each factor was selected to describe as accurately as possible the items in it.

ABSENCES FROM SCHOOL

We first asked: How many days since the start of the first term this year were you absent because of your own illness? The replies are summarised in Table 7.4. Just under a third of teachers reported no absences. Nearly fifteen per cent reported at least six days absent. Overall, the mean number of days absent per teacher for the two terms was 3.2. The total number of school days up to the start of the survey period was 114; hence, the mean 3.2 absences represented a mean absenteeism rate of 2.8 per cent - or, more positively, a mean attendance rate of 97.2 per cent.

Tabel 7.4 Absences from School of Account of Ill-Health

Number of days absent	Per cent of Teachers (N = 296)
0	32.4
1-5	52.7
6-13	11.5
14-42	3.4

Forty eight per cent of the teachers reported one day absences. The range in the number of such absences was from one to twenty two occasions over the two terms.

COMMENT

Stress, Health and Absence

In our survey roughly one in eight teachers reported finding their work either "very stressful" or "extremely stressful". This is roughly the same proportion as reported by Coleman (1981) in his small scale study of teachers in Northland. It is considerably less, however, than the 20-30 per cent reported by Kyriacou and Sutcliffe in their studies of English secondary school teachers, summarised by Kyriacou (1980a).

Superficially, then, it seems as though primary teachers in New Zealand may experience less stress than secondary teachers in England. Do they also report better health than English teachers? Pratt (1978) also used the thirty six "best items" version of Goldberg's (1972) General Health Questionnaire in his study of primary school teachers in Sheffield. We can therefore compare his results with our own. Using the same cut-off score, Pratt reported twenty five per cent of his sample at risk. This has to be compared with forty four per cent in our Wellington Education Board sample. An equally interesting result was that the proportion of teachers reporting low vitality, or little resistance to colds and periods of extra strain was nearly double the proportion reported by Borland (1964) in the survey he carried out in 1962.

Borland (1964) reported that teachers in his sample took an average of 1.6 days leave per year. In our sample, the mean number of days' absence because of the respondent's own illness in the first two terms of the year was 3.2. This is consistent with the health results just reported.

It seems surprising that feelings of stress should apparently be less prevalent in New Zealand than in England, but that poor health should be more prevalent. Is it possible that New Zealand teachers may be more reluctant to admit to feelings of stress than their colleagues in England? In at least two respects, pressures on New Zealand teachers are greater. One is the limited tenure system in the early years of teaching. The second is the grading by inspectors as a basis for promotion. Both of these may create a sense of insecurity in teachers. To obtain a permanent job, or to pass a grading inspection, they need to appear competent and confident. Admitting to feelings of stress may be inconsistent with the need to feel competent and confident. Admitting to illness, in contrast, may not threaten their sense of self-esteem in the same way. Anyone can become ill. That is no reflection on one's ability as a teacher. In the pilot study a teacher expressed this reluctance to admit to stress in a discussion with the researcher.

"I kept thinking if I put that ("very stressful") my God, she'll think I'm running an absolutely chaotic classroom.... I'm of the opinion that if you're running an excellent programme, you won't have stress in your classroom. So, doing the questionnaire, you recognise it's there. I'm seeing I've failed in many ways."

Another possible source of bias in our results was the time of the year that the survey took place. Borland does not say when teachers completed his questionnaire. Coming three weeks before the end of the Autumn term, our survey took place at a particularly busy time of the year. Further work is needed to assess whether this may have led to increased reporting of ill health. It is difficult, however, to see any reason why the time of year should have greater influence over reporting of ill health than of stress.

THE RELATIONSHIP BETWEEN STRESS, ABSENCES AND HEALTH

Using Pearson's product moment correlation coefficient, there was a highly significant correlation between mean scores on the General Health Questionnaire and mean scores on the Stress Inventory for Teachers which is described in the next chapter ($r = .304$;$<p$ 001). In other words, higher levels of stress were associated with poorer health. That does not, however, tell us how absences from teaching relate to health and stress. Simpson (1962) has suggested that absences may enable teachers, especially young or inexperienced teachers, to withdraw temporarily from the stress experienced in teaching. If this is so, we might expect to find a stronger relationship between stress and the number of single day absences than between stress and the total number of absences. Table 7.5 shows not only that this is the case, but also

Table 7.5 Pearson Correlations between Absence, Stress and Health (Number of Teachers = 296)

	Overall Stress Rating	General Health Questionnaire
Total number of absences	.092 (NS	.166 ($p<.002$)
Number of one-day absences	.103 ($p<.04$)	.071 (NS)

(i) That there is a statistically significant correlation between the total number of absences and scores on the General Health Questionnaire, and,

(ii) That there is not a significant correlation between the number of one day absences and scores on the General Health Questionnaire. Together these results suggest that many one day absences may be attributed to stress. Some indirect support for this view comes from a significant negative correlation between the number of one day absences and mean scores on the satisfaction with Teaching Questionnaires (see Chapter 9) ($r = -.11; < p$ .03).

It is important not to overstate the implications of these results. Even when they were statistically significant the correlations were low, accounting for only a small part of the variance. This topic will, however, be discussed at greater length in Chapter 10, when we compare responses of specific groups of teachers on a range of variables, including absences from work.

DISCUSSION AND CONCLUSIONS

Summary

The results described in this chapter show that feelings of stress were widespread, but that fewer teachers than in England admitted to finding their work "very stressful" or "extremely stressful". In contrast, symptoms of poor psychiatric health appeared more widespread than amongst a sample of English primary school teachers, and there is evidence that teachers reported generally worse health than in 1962. Forty eight per cent of the sample said they had taken one-day absences from teaching in the course of the first two terms of 1981. There was some evidence that such absences were stress related.

Conclusions

Knowledge about the prevalence of stress and health problems experienced by teachers has possible implications for government policy, NZEI policy and policy within individual schools. A discussion of possible political and administrative implications lies beyond the scope of the present research report, though they will be discussed in a further paper. Illnesses, and absences from school, may be seen as possible effects of stress. We have so far said nothing about the sources. In the next chapter we report some of the findings on the sources of stress for class teachers.

CHAPTER 8. SOURCES OF STRESS FOR CLASS TEACHERS

INTRODUCTION

Information about the sources of stress for class teachers was obtained from the Stress Inventory for Teachers and from the Background Information Questionnaire: Teachers. The rationale for both instruments is given below. The aim in this chapter is to provide descriptive information about the sample as a whole. Analysis of the sources of stress reported by specific groups of teachers is described in Chapter 10.

Stress Inventory for Teachers. The inventory was adapted for New Zealand conditions from the "Teacher Event Stress Inventory" developed by Pratt (1978) for use in his study of primary school teachers in Sheffield, England. The major advantage of this instrument over other questionnaires and inventories on teacher stress was its explicit focus on events which the teacher might actually experience in the course of the day. This focus on specific events and situations seemed desirable for two reasons. First, it would enable us to make statements with some confidence about the sources of stress at school which teachers encountered throughout the week. Second, it would to some extent overcome a conceptual problem in many other instruments including our own Stress Checklist for Principals.

As we noted in Chapter 5, it is easy to confuse different sorts of stress. Some problems may be experienced as chronic sources of stresses. An example for a teacher with limited tenure could be obtaining a permanent position. For a more experienced teacher, an example might be the limited opportunity for promotion in her home area. Other problems may be experienced as short-term, or temporary sources of stress. Examples are lunch-hour supervision on a wet day, and discussing a problem child with a parent. Confusing items such as these in one questionnaire or inventory creates conceptual problems for the respondents. A teacher might, for instance, be much more worried at one level about her promotion prospects than about discussing a child with a parent. At another level, stress arising from the discussion with the parent might be more acute. Further, conceptual problems for the respondent create problems of interpretation for the researcher.

We are not claiming that Pratt's inventory overcomes these problems. Nevertheless, we do believe that its explicit focus on events or situations experienced in the course of the day gives it theoretical and practical advantages over other possible instruments. Yet this also indicates a limitation in the inventory. Information is also needed about "chronic" sources of stress, and about sources which may arise outside the school setting. We therefore decided to include items on these areas in the Background Information Questionnaire.

In the pilot project we asked teachers to complete Pratt's original Event-Stress Inventory for Teachers. Subsequently we discussed the inventory with selected teachers. In the light of these discussions, and of information from the completed inventories, we revised the wording of some items. We deleted a small number of items which were not appropriate to New Zealand conditions, and added others which seemed more relevant.

Pratt intended his inventory to be completed on five consecutive days of the week. As we also needed to ask teachers to complete the Background Information Questionnaire, the General Health Questionnaire and the Satisfaction with Teaching Questionnaire, we felt that we were already making heavy demands on their time, and that to ask them to complete the Stress Inventory on five consecutive days would be unreasonable. On the other hand, it seemed essential that the inventory be completed more than once if we were to obtain sufficient information from it. A disadvantage of an instrument which focusses on actual events, rather than on global ratings of stress about general topics, is that events which cause stress may occur infrequently. We eventually decided to ask teachers to complete the Stress Inventory after school on Monday, Wednesday and Friday of the survey week. The instructions were considerably modified from Pratt's original Event-Stress Inventory. Amongst other things, they asked respondents to give details about day and date if, for any reason, they were unable to complete the inventory on the specified days. The final version appears as Appendix 2b.

Background Information Questionnaire. The aim of questions about stress in the Background Information Questionnaire was to supplement information obtained from the Stress Inventory for Teachers. Specifically, there were three possible sources of stress on which we believed information would be useful: (i) the stress experienced from teaching specific subjects in the curriculum; (ii) the stress experienced from events which occurred regularly, but too infrequently for them to be covered by the Stress Inventory, such as "meet the teacher evenings"; (iii) stress engendered by events outside the school, such as bereavement or illness of other members in the family. In each case, ratings were from one to five, with one representing "not applicable" or "not taught by me". Ratings of two, three, four and five represented "no stress", "mild stress", "quite a lot of stress" and "extreme stress" respectively.

RESULTS: BACKGROUND INFORMATION QUESTIONNAIRE.

Stress Arising from the Curriculum. Table 8.1 shows how teachers rated their stress in teaching each of the main curriculum areas. The subjects are listed in rank order, with those causing "quite a lot of stress" or "extreme stress" to most teachers first. Interestingly, it is the "core" subjects in the curuculum which caused quite a lot of stress or extreme stress to most teachers. Reading, and to a lesser extent maths, are the most "visible" curriculum areas to parents. When parents express concern about their child's progress to the principal or to the class teacher, the concern very frequently focusses on the child's progress in reading or in maths. Other subjects often appear secondary to these. To some extent this is inevitable, and legitimate. Failure to make adequate progress in reading and in maths affects the child's progress in many other subjects as well. In view of the obvious overlap between reading and language/

Table 8.1 Stress from the Curriculum

Question: How great a source of stress is the teaching of these subjects for you?

	Per Cent of Teachers (N = 296)*			
	Not taught	No stress	Mild stress	Quite a lot of stress/ extreme stress
Reading	0.3	34.8	44.9	17.6
Mathematics	1.7	29.1	49.7	17.2
Science	9.8	33.1	39.2	15.3
Music	17.9	35.5	31.4	13.1
Physical Education	4.4	52.4	33.1	10.2
Social Studies	2.0	50.3	39.5	5.4
Art	7.8	56.8	28.4	3.7
Language/ English	2.0	55.1	36.5	3.0
Health Education	4.7	60.1	29.7	2.0

* The numbers in each row do not add up to 100, because information was not given by a small number of respondents.

English, it is surprising that so few teachers found the latter stressful compared with the former. The results may imply that respondents saw these as discrete subject areas, and that they regarded language/English as relatively unstressful, provided that the children's reading skills were adequate.

The results for science and music raise two issues. First, more teachers said they did not teach these subjects than any of the other subjects. It may be they are seen as specialist subjects, and that a specialist on the staff covers them for the whole school. Second, they appear to generate a good deal of stress among a substantial minority of teachers who do teach them. If there is no music specialist on the staff, for example, or if the principal does not believe in encouraging specialists to teach outside their own classes, the responsibility falls back on the class teacher. It may be that more emphasis might usefully be placed on teaching science and music, both at the level of initial teacher training, and at in-service level.

Stress from Other Events at School. Some events occur regularly but infrequently. These may generate considerable stress when they do occur. In Table 8.2 we show the per cent of teachers who reported stress from seven such events. As before, the events are placed in rank order, starting with the ones reported by the largest number of teachers as creating "quite a lot of stress" or "extreme stress".

The stress engendered by inspectors' visits is not altogether surprising. Although the inspectorate appears to be seeking to play an increasingly supportive role, inspectors still have formal responsibilities, and a great deal of informal influence. Year one teachers have to be inspected before they are certificated. Formal grading by inspectors is still necessary to enable more

Table 8.2 Stress from Other Events at School

Question: How great a source of stress for you are the following events?

	Per Cent of Teachers (N = 296)			
	Not applicable	No stress	Mild stress	Quite a lot of stress/ extreme stress
Inspectors' visits	3.4	5.1	31.4	58.5
Class Trips	1.7	15.9	51.0	30.4
Parent-teacher interviews for discussion of pupil's progress/ report	1.0	20.6	48.6	28.4
Meet the teacher evenings	4.7	28.4	49.0	16.5
Staff meetings	1.4	60.8	32.8	3.7
Syndicate meetings	8.1	66.6	21.3	2.7
P.T.A. meetings	37.5	34.1	22.6	2.7

experienced teachers to apply for promotion. A principal who had recently been inspected described, without rancour, the inspector's visit:

"The grading visit was stressful to a degree, but it only happens every two years*..... the one who graded me.... he was under stress too, not quite sure what level to tackle it at. He asked me to do a music lesson - something I wasn't at all familiar with, and hadn't prepared. One of the other teachers here does all the music. He admitted he was analysing the finer points of my teaching style.... The grading situation is a very important point for your study. Either I could stand it, hold out, or I would collapse.... I had to show I could cope. They asked questions like: in the March issue of the Education Gazette there was a policy statement on social studies; what changes are you going to make in your school scheme?, First, you had to have read it, and second to have evaluated your scheme against it. What a nasty question!"

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*In fact, the cycle is every three years, and then only at the teacher's request.

"Either I could stand it, hold out, or I would collapse.... I had to show I could cope." One wonders how many others teachers look back on the inspector's visit - one is tempted to say inquisition - in this way. More important are the "survivors", in other words the ones who do stand it and hold out, necessarily the best teachers? Is it possible that women teachers are reluctant to submit themselves to interrogation by inspectors who, almost invariably, are male, and older and more experienced than they are? In this connection, it is worth repeating the sex ratios in our surveys. Of the principals 92.5 per cent were men. Of the class teachers, 16.6 were men. The reasons for this extraordinary state of affairs are undoubtedly complex; but it is worth asking whether the system of formal grading by inspectors is without some responsibility.

The other events which caused "quite a lot of stress" or "extreme stress" to more than a quarter of teachers in the sample were "class trips", and "parent-teacher interviews for discussion of pupil's progress/report". It is not hard to see why these should often cause stress. Children can get excited on class trips, and consequently more difficult to manage; arrangements can go wrong; accidents may be more likely; children can become ill, not least from travel sickness. Class trips can be stimulating for the teacher and the children. They can also be extremely stressful for the teacher.

Parent-teacher interviews may engender stress for different reasons. If a child has not made good progress, the teacher may feel that her own competence is in question. She may fear that parents will be upset by their child's lack of progress, or resentful if the teacher raises the question of difficult behaviour. Several principals described such meetings as a source of stress both for themselves and for their class teacher colleagues.

The events which caused "quite a lot of stress" or "extreme stress" to very few teachers are of as much interest as those which caused stress to relatively many. P.T.A. meetings may be seen primarily as social functions, but it is noteworthy that neither staff meetings nor syndicate meetings were seen as important sources of stress by many teachers. Such meetings may constitute important sources of social and professional support, and hence help to mitigate the effects of stress.

Stress from Problems not Directly Related to School. Teaching requires a high level of concentration and personal commitment. Teachers who are worried about illness in other members of their family, or about some other problem at home, cannot easily give their work the necessary concentration and commitment. As a result, their lesson preparation may suffer, and the behaviour of their pupils deteriorate, thus causing further stress. We asked about the stress caused by five potential problems at home. In addition we asked respondents about stress experienced by possible difficulty in obtaining their next teaching position, and about encroachment of job demands on personal time. The latter might be regarded as a stress arising at school. On the other hand, the extent to which job demands are perceived as encroaching on personal time depends to some extent on the nature and number of demands at home. The results, rank ordered as in the previous two tables, are seen in Table 8.3.

Teachers may be less surprised than members of other professions or members of the general public that "encroachment of job demands on personal time" should cause substantial stress to more than one third of their numbers. Stress may arise not only from exceptional events such as "meet the teacher evenings" or school plays, but also from the routine requirements of lesson preparation and, especially with older children, correcting work.

Nearly a quarter of teachers in the sample reported "quite a lot of stress" or "extreme stress" about obtaining their next teaching position. If we discount

Table 8.3 Stress from Problems not Directly Related to School

Question: How great a source of stress have the following been for you this year?

	Per Cent of Teachers (N = 296)			
	Not applicable	No stress	Mild stress	Quite a lot of stress/ extreme stress
Encroachment of job demands on personal time	1.7	12.2	48.0	36.2
Obtaining your next teaching position	40.5	14.9	17.6	24.7
Illness of your own children or other members of your family	31.4	17.2	30.4	18.6
Financial commitments/ worries	8.1	39.5	35.5	14.9
Marital relationships	26.4	38.2	24.3	9.1
Bereavement	67.2	15.2	5.4	8.8
Separation from family/ friends	34.8	30.7	24.7	7.4

the 176 teachers who answered "not applicable" to this item, and the seven who gave no information, 43 per cent of the remainder claimed to feel "quite a lot of stress" or "extreme stress". A further 31 per cent claimed to feel "mild stress". It is worth noting that 12.2 per cent of the sample were limited tenure teachers, and a further 12.8 per cent long term relievers. The feelings of stress may arise either from insecurity over continued employment, or from insecurity over opportunities for promotion. Whichever is the case, they are certainly widespread.

Returning briefly to Table 8.1, no curriculum subject was reported as causing "quite a lot of stress" or "extreme stress" by so many teachers as three of the problems listed in Table 8.3. Two have already been mentioned. The third: "illness of your own children or other members of your family" is one that may be a greater source of stress to married women than to married men.

A further point to note from Table 8.3 is that a relatively high proportion of teachers circled the "not applicable" column for several items. In these cases, the remaining figures in the row could easily be misleading. Taking bereavement as an example, if we exclude teachers who replied "not applicable" from the analysis, 26 per cent reported "quite a lot of stress" or "extreme stress". The more general point which emerges from these results, though, is that teachers can experience stress from domestic pressures as well as from events at school. Senior staff clearly have an important supporting role when colleagues are experiencing difficulties in their lives outside the school.

RESULTS: STRESS INVENTORY FOR TEACHERS

Data Preparation. As noted earlier, the Stress Inventory was completed on three separate days. We asked that, if possible, the days should be Monday, 3rd August, Wednesday 5th August and Friday 7th August. In fact the proportion of the 296 respondents who completed the inventory on these days ranged from 87 per cent on Monday to 80 per cent on Friday. The majority who did not complete the inventory on the specified dates completed it, as requested, on the appropriate Monday, Wednesday, or Friday of the following week. However, we accepted a total of nine inventories for processing on which the date was not known, and also two completed on a Tuesday, and one on a Thursday.

The inventories were first analysed by day. Thus, all inventories completed on the first of the three days were analysed together, even if that day happened to be a Friday, for example because of the respondent's illness earlier in the week. The mean rating was then calculated for each item, using the original ratings. In addition, the mean rating for all items on the inventory was calculated. The mean rating for days one, two and three were 1.92 (s.d. .55), 1.94 (s.d. .52) and 1.87 (s.d. .53) respectively. Data were then pooled to calculate a mean rating per item for the three days, and an overall mean rating for all three inventories. The overall mean rating for the three inventories was 1.93 (s.d. .46).

We carried out two rough checks on the internal reliability of the data. First, we used Pearson's correlation coefficient to correlate each respondent's mean rating on the three inventories with her overall rating of stress when answering the question : "In general how stressful do you find being a teacher". The correlation was positive and highly significant ($r = .44$; $p < .001$). Second, we correlated each respondent's mean rating on the three inventories with her mean rating on each of the three inventories separately. Again, the correlations were positive and highly significant at the level of $p < .001$ ($r = .81$; $r = .87$; $r = .79$).

The Range of Responses. An inventory which focusses on events or situations experienced in the course of the day inevitably attracts many statements that items "did not occur". The modal score was one ("did not occur") on thirty seven items. On the remaining nine items, the modal score was three ("slightly stressful"). Each of these nine items features in a list of twelve items with the highest rankings (see Table 8.4).

Another way to consider the results, though, is in terms of the range of ratings on each item. Every item except three had a range of ratings between one ("did not occur") and six ("extremely stressful"). In other words, at least one teacher regarded forty three items as "extremely stressful" on at least one occasion. The range of ratings for the remaining three items was from one to five ("very stressful"). The items were: "My planning was inadequate/unsatisfactory"; "I had to supervise my class during playtime"; "I never knew what was going to happen next during this lesson/activity".

Mean Ratings. The results that follow are based on the mean ratings for all three inventories. Table 8.4 shows, in rank order, the fifteen items with the highest mean ratings. Appendix 5a shows, in rank order, the mean ratings of all forty six items.

It is clear from Table 8.4 that the major sources of stress relate to children's behaviour and progress. The first item which is not related to children's behaviour or progress is the eighth in rank order: "I was interrupted by other people/events". Another point to be noted from Table 8.4 concerns the implicit focus on events or situations which detract from the task in hand. There is little evidence here of the "role conflict" which has attracted so much attention from researchers on stress in industry. The only two items which appear to indicate role conflict are: "I found myself concerned with the plight of one child/group," and "I had extra organizational/clerical demands". It is also of interest that relationships with colleagues do not figure in the list of items with the highest mean ratings. Appendix 5 shows that these come relatively low in the rank order.

The mean ratings in Table 8.4 are considerably higher than those reported by Pratt (1978), but this may be attributed to differences in the wording of the instructions. Pratt specifically asked respondents to rate each event on one item only. We did not, believing that in practice this would be extremely difficult, and

Table 8.4 Mean Rating of Highest Rated Items on the Stress Inventory for Teachers in Rank Order of Mean Rating

(Number of Teachers = 296)

Rank	Item	Mean Value
1	There was at least one problem child in my class	3.06
2	Some children did not do as they were told straight away	2.96
3	I was not able to do enough with individual pupils	2.82
4	The children did not listen to what was said	2.63 *
5	A child did not do as I told him/her to	2.63
6	Children made a lot of noise during this lesson/activity	2.58
7	Some children were hostile and aggressive to each other	2.55
8	I was interrupted by other people/events	2.48
9	Children had difficulties in learning/understanding	2.44
10	The weather made the children restless	2.38
11	Some children showed a lack of interest in this lesson/activity	2.33
12	I found myself very concerned with the plight of one child/group	2.30
13	I found it difficult to reach the standard I wanted during this lesson/activity	2.28
14	I had extra clerical/organizational demands	2.15
15	There was insufficient time to do what I had planned	2.11

that in any case the cumulative effect of a single event could be important. Nevertheless, the overlap between our results and Pratt's is considerable. Pratt's table of the ten most heavily used items contains six which also appear in the first ten items of Table 8.4. Our evidence supports Pratt's observation that "almost all items contain reference to the teacher-child interaction, and this would appear to be the central and enduring source of stress to most teachers".

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* The rank order was calculated before rounding the mean score to two decimal places

Clustering of Items. Details of the principal components analysis of the stress inventory are given in appendix 5b. Five factors were identified, and subscales derived from them. The factors were: "children's behaviour" (with nine items in the subscale); "teaching problems and children's progress" (ten items); "staff relationships" (six items); "multiple roles" (five items); and "extra duties"(four items). In each case the label was selected to describe as accurately as possible the items in each subscale.

The children's behaviour cluster is self-explanatory. Seven of the nine items figured amongst the highest mean ratings, shown in Table 8.4. Teaching problems and children's progress included items such as "my planning was inadequate/unsatisfactory" and "children had difficulties in learning/understanding". The cluster of items describing staff relationships is also self-explanatory. An example of an item in this subscale was: "I found another member of staff difficult to work with". The "multiple roles" factor contained items which are generally accepted as part of a teacher's professional responsibility, yet implicitly or explicitly extend beyond routine classroom teaching. Examples were: "I was anxious for the safety of the children", and "I was on playground duty". Finally, the four items in the "extra duties" subscale described events which could be seen as going beyond routine professional responsibilities. Examples were: "I had to collect and check money," and "I was involved with an extra-curricula activity".

Two points should be made about the results of principal components analysis. One is that the first two factors tend to confirm the suggestion in Table 8.4 that children's behaviour and progress are important sources of stress for class teachers. Second, it is clear that staff relationships, the multiple roles that teachers are expected to undertake and the extra duties for which they are responsible, all constitute important sources of stress, at least for some teachers.

CONCLUSIONS

The evidence suggests that a substantial minority of teachers experienced quite a lot of stress from ordinary curriculum requirements. The inspectorate was seen as a major source of stress by more than half the teachers in the survey. Class trips and parent-teacher interviews were seen as major sources of stress by well over a quarter of respondents. Events in the teachers' personal lives seemed likely to cause stress to fewer teachers than events at school; but when they did occur, they frequently caused a great deal of stress. The Stress Inventory for Teachers confirmed English evidence that children's behaviour and progress are the major sources of stress arising from day-to-day teaching activities. Staff relationships and the varied additional responsibilities which teachers are expected to undertake were also shown to be important sources of stress.

Limitations. We have already drawn attention to limitations in the analysis of the data. A much more basic point is that by emphasising the sources of stress for teachers, we may overlook the equally important sources of satisfaction which they derive from their work. It may be as helpful to personal and professional development to recognise the potential sources of satisfaction in teaching as to identify the potential sources of stress. The next chapter deals with satisfaction in teaching, and with the relationship between satisfaction, stress and health.

CHAPTER 9. SATISFACTION AND DISSATISFACTION WITH TEACHING.

INTRODUCTION

Some Conceptual Issues. When planning our work we accepted Kyriacou and Sutcliffe's (1978a) definition, which conceives of stress as "a response of negative affect ...". Regarding stress as a necessarily unpleasant experience implies that a high overall level of job satisfaction will be inconsistent with a high overall level of job-related stress. From this, it is tempting to conclude: (a) that a high level of job satisfaction is inconsistent with a high level of stress, and (b) that a high level of dissatisfaction will be positively correlated with a high level of stress.

Unfortunately, the position is more complicated. To start with, some authors have argued that the sources of satisfaction and dissatisfaction are separate and distinct. Thus Herzberg's two-factor theory of job satisfaction sees job satisfaction as provided by aspects of the job which meet the individual's need for psychological growth (Herzberg et al 1959). These aspects include the feeling of achievement which can come from the intrinsic nature of the job, for example, seeing children make progress. In contrast, the two-factor theory sees job dissatisfaction as arising from conditions at work, rather than from the work itself. Inadequate pay, for example, or too much or too little supervision might contribute to job dissatisfaction. Hence, it is possible to be satisfied with some aspects of the job, and dissatisfied with others.

If this view is correct, it is an over-simplification to assume that overall job satisfaction derives from satisfaction with the various aspects of the job. This does not imply that the concept of overall satisfaction is necessarily misleading. What it does imply is that we should be clear about the distinction between overall satisfaction and factor, or "facet", satisfaction. Lawler (1973) defines overall satisfaction as: "a person's affective reactions to his total work role". In contrast, facet satisfaction is defined as "people's affective reactions to particular aspects of their job".

Satisfaction and Stress. Kyriacou and Sutcliffe (1979) asked 218 secondary school teachers in England: "overall, how satisfied are you with teaching as a job?" Replies were rated on a five-point scale: very dissatisfied, fairly dissatisfied, neither satisfied nor dissatisfied, fairly satisfied, very satisfied. They then correlated the ratings with the ratings provided in reply to their similar question about overall stress, described in Chapters 1 and 7. They found a strong negative correlation between self-reported job satisfaction and stress ($r = -.27$; $p < .01$).

What is not clear is the nature of the relationship. Are the aspects of the job which cause teachers most dissatisfaction also the areas with which cause them most stress? If so, we would expect to find a high level of dissatisfaction about aspects such as children's behaviour and their educational progress. Or does dissatisfaction arise, as the work of Herzberg et al (1959) implies, from such things as pay and conditions of employment, even though these may not be the greatest sources of stress?

PROCEDURE

The Satisfaction with Teaching Questionnaire. If high job satisfaction and high job dissatisfaction are indeed relatively independent factors, rather than opposite poles on a continuum, a suitable questionnaire should elicit information both about satisfaction and about dissatisfaction. The questionnaire originally developed by Holdaway (1978) and subsequently modified by the Australian Council for Educational Research (Ainley, 1981) met this condition. Following the pilot project, we made some fairly minor changes to a few items. The questionnaire asks "How satisfied are you with the following aspects of teaching?" Forty two aspects follow, each of which is rated on a 1-5 point scale: not relevant; very dissatisfied; fairly dissatisfied; fairly satisfied; very satisfied. The decision to omit a neutral category was a deliberate one. We argued that unless an item was not applicable, the respondent should be able to choose between "fairly satisfied" and "fairly dissatisfied". In practice this seemed to cause few problems. Respondents could, however, rate an item "not applicable".

For the question "What is your overall level of satisfaction with your job", we omitted the neutral rating; respondents therefore had to choose between: very dissatisfied; fairly dissatisfied; fairly satisfied; very satisfied. Ratings were from 2-5.

Finally, the questionnaire contained two open-ended questions: "what factors contribute more to your overall satisfaction with teaching as an occupation?" and "what factors contribute most to your overall dissatisfaction?" We hoped that replies to these open-ended questions would supplement information from the forced-choice questionnaire items.

Method of Analysis. Two measures of satisfaction were available. Ratings on the forty two items were summed to provide a score for each respondent. It was then possible to calculate the mean rating per item, and the mean rating for the whole scale. The second measure was the teachers' overall rating of satisfaction with their job. We used correlation techniques to investigate the strength of the association between our two measures of satisfaction, stress and health. In addition, straightforward frequency counts enabled us to identify the items most frequently rated as sources of satisfaction, and those most frequently rated as sources of dissatisfaction. Finally, principal components analysis enabled us to identify clusters of items which respondents answered in similar ways.

RESULTS

Overall Satisfaction. Table 9.1 shows how the teachers in our sample rated their overall satisfaction with their job. Just over two thirds rated themselves "fairly satisfied", while 17.6 per cent were either "fairly dissatisfied" or "very dissatisfied". This is a somewhat higher proportion than the 12.5 per cent who reported their work, overall, either as "very stressful" or "extremely stressful". On the other hand, a further 50 per cent said they found teaching "moderately stressful". Since only 16.2 per cent were "fairly dissatisfied" with their job, it would seem that the inverse relationship between satisfaction and stress is by no means straightforward.

The apparent difference in prevalence between feelings of stress and feelings of dissatisfaction merits further discussion. Two explanations are worth considering. One concerns response bias. For many people admitting to feelings of stress may be more acceptable than admitting to feelings of dissatisfaction. Feelings of stress can perhaps be rationalised by attributing responsibility on to external causes, such as a disruptive pupil or an unhelpful colleague. Admitting to feelings of dissatisfaction, on the other hand, may feel more like admitting that there is something wrong with oneself. To simplify the argument: An individual who admits to stress may feel that someone or something else has to change. An individual who admits to dissatisfaction may feel that she has to change. If this argument is correct, admitting to dissatisfaction may pose a greater threat to the individual's self-esteem and need for a personal sense of security than admitting to stress.

The second possibility concerns the individual's view of stress. Perhaps stress is seen as an inevitable part and parcel of teaching. If teachers do indeed see stress as inevitable, they might feel it would be illogical to express dissatisfaction with the job because stress exists. Taking this argument one stage further, people or events who cause stress may be regarded negatively, but overcoming the problems they present may provide great satisfaction. Finding ways to help a backward child, for example, may be highly stressful to some teachers. Seeing that child eventually make progress may be highly satisfying.

Using the original ratings, (from 2: very dissatisfied, to 5: very satisfied), we calculated a mean rating of 3.93 for all respondents on the question about overall satisfaction. Hence, the mean rating fell just short of the "fairly satisfied" category.

Table 9.1 Teachers' Ratings of Overall Satisfaction.

Question: What is your overall level of satisfaction with your job?

Rating	Per cent of Teachers (N = 296)
very satisfied	12.5
fairly satisfied	67.6
fairly dissatisfied	16.2
very dissatisfied	1.4
not known	2.4

Sources of Satisfaction and Dissatisfaction.

The mean score from the 42 items of the questionnaire was 3.5 (s.d. 0.4), or between "fairly dissatisfied" and "fairly satisfied". A more revealing way of expressing the results, however, is in Table 9.2, where we show the ten items on which the largest number of teachers expressed themselves "fairly satisfied" or "very satisfied". In Table 9.3 we show the items most frequently rated as "fairly dissatisfied" or "very dissatisfied". The rank order for all 42 items in the questionnaire is given in appendices 6a and 6b. In appendix 6a we also give the mean rating for each item.

It is clear from Table 9.2 that relationships with pupils and colleagues, together with other intrinsic aspects of the job, constituted the most important sources of satisfaction for teachers in our sample. Items such as professional freedom (items 3 and 5 in the rank order), and pupil progress and behaviour (items = 8 and 10) clearly

Table 9.2 Items from the Satisfaction with Teaching Questionnaire most Frequently Rated as "Fairly Satisfied" or "Very Satisfied".

Rank	Item	Per cent of Teachers (N = 296)
1	Your relationship with pupils	95.9
2	Your relationship with other teachers	94.3
3	Your freedom to select teaching methods	87.5
4	The timetabling of the programme/ activities	87.2
5	Your freedom to select subject matter for your class(es)	84.8
6	The number of hours you teach each week	83.4
7	Your relationship with senior staff in the school	81.8
= 8	The level of pupil achievement in your class(es)	81.1
= 8	Your allocation to teaching a particular class/unit	81.1
10	The general behaviour of pupils in your class(es)	80.7

reflect the related needs for psychological growth and personal achievement.

The evidence about relationships with pupils and about pupils' behaviour and progress should be compared with evidence from the Stress Inventory for Teachers. Briefly, the Stress Inventory showed children's behaviour and progress to be the greatest sources of stress. The Satisfaction with Teaching Questionnaire shows them to be the greatest sources of satisfaction. This apparent paradox is resolved if we accept three rather basic premises: (i) a teacher feels satisfaction when she feels she is teaching well; (ii) she feels she is teaching well when she feels she has established good relationships with her pupils, and when she is able to see them making progress; (iii) she feels stress when a child's disruptive behaviour, or lack of progress, conflicts with her primary need for job satisfaction. We should also bear in mind that a teacher may be highly satisfied with the behaviour and progress of most children in her class, yet experience acute stress from the problems presented by one individual.

Interpreting the sources of dissatisfaction in Table 9.3 is less straightforward. The general tendency is for conditions of employment and other "extrinsic" aspects of the job to be rated as high sources of dissatisfaction. The items in the rank order relating to conditions of employment are 1, 3, 4, 5, = 6, 8 and 9. Two of the remaining items, namely 2 and = 6, express dissatisfaction over society's attitudes towards education and the status of teachers in society. Item 10 could be seen as a statement of concern about amenities at the school, or about amenities in the community. The latter could be true, in different ways, both of urban and of rural teachers.

The evidence from Table 9.3 and 9.2 seems consistent with Herzberg's two-factor theory, described earlier. Satisfaction seems to come from the intrinsic aspects of the job, while dissatisfaction arises when conditions of employment are seen as inadequate and when other external factors reduce the teacher's sense of self-esteem. There is, however, some overlap. The item ranked third, for

Table 9.3 Items from the Satisfaction with Teaching Questionnaire most Frequently Rated as "Fairly Dissatisfied" or "Very Dissatisfied".

Rank	Item	Per cent of Teachers (N = 296)
1	The methods used to grade teachers for promotion	74.7
2	The attitudes of society towards education	74.3
3	The opportunities for useful in-service education	73.0
4	The preparation time available during the school day	72.3
5	The factors used to determine salaries	67.2
= 6	The status of teachers in society	59.1
= 6	The amount of preparation and correction time required of you during and out of school time	59.1
8	The availability of ancillary staff to assist you	58.8
9	The number of hours of non-teaching duties each week	48.6
10	The availability of facilities for your recration activities	46.9

example, was "the opportunities for useful inservice education". This could be seen as a comment on the lack of support which teachers feel they receive in trying to raise their own standards. Similarly, "the availability of ancillary staff to assist you", and "the number of hours of non-teaching duties each week" could be seen as critical comments on factors which lower the quality of work with children. On the other hand, each of these items describes conditions of employment rather than the basic professional aspects of the job or the social contact with colleagues.

One further comment is necessary. Whether a teacher sees something, for example, "the factors used to determine salaries", as a source of dissatisfaction may depend less on her feelings about the procedures as such than on her overall feelings about the job. The sources of satisfaction and dissatisfaction may be related indirectly. Thus, teachers who derive relatively little satisfaction from their work may well be more sensitive to potential sources of dissatisfaction, for example, conditions of employment, than teachers who derive a lot of satisfaction.

Association with Overall Satisfaction. With one exception, the correlation between overall satisfaction and each of the forty two items in the questionnaire was positive. In all but five cases it was also significant ($p < .05$). The correlations with overall satisfaction are given in appendix 6a. The only item which correlated negatively with overall satisfaction was "your eventual retirement benefits" ($r = -.018$). This item was also exceptional in being rated not relevant by thirty seven per cent of teachers. The very low correlation implies simply that there was no clear association between current overall satisfaction with teaching, and concern about eventual retirement benefits.

Clustering of Items on the Satisfaction with Teaching Questionnaire. Details of the principal components analysis of the questionnaire are given in appendix 6c. Five factors were identified, and subscales derived from them. The factors were: "school administration and conditions of employment" (with twelve items in the subscale); "children's attitudes and progress" (eight items); "interaction with colleagues" (eight items); "recognition by society"(six items); and "professional autonomy"(three items). In each case the label aimed to describe as accurately as possible the items in the subscale.

The first factor dealt with matters which were generally beyond the teacher's control, such as "the size of the class (es) you teach," "the number of hours of non-teaching duties each week," "the availability of ancillary staff to assist you". This factor included items which reflected school policy as well as national conditions of employment. An example was: "your freedom to select teaching material (within available funds). The subscale labelled "children's attitudes and progress" was self-explanatory, containing items such as "your relationships with pupils" and "the level of pupil achievement in your class(es). The interaction with colleagues subscale focussed on issues such as provision of useful advice, recognition by colleagues, and relationships with them. Factor four, recognition by society overlapped to some extent with factor one. It included items such as "the status of teachers in society". Other items in this subscale could be seen as reflecting in a less direct way the status of teachers in society, for example: "the salary you receive" and "the prospect of teaching as a life-time career". Finally, the three items in the professional autonomy subscale reflected freedom to select subject matter and teaching methods, and to determine methods to be used in the assessment of pupils.

The five subscales contained thirty seven of the forty two items in the original scale. They should not be seen as evidence about levels of satisfaction or dissatisfaction as such, but rather as broad areas, exerting an important influence on a teacher's level of job-satisfaction.

Open-ended Questions. Many teachers replied to the two open-ended questions at the end of the questionnaire. Their replies frequently placed the questionnaire ratings in a wider perspective. In reply to the question about factors contributing most to their overall satisfaction, fifty five per cent of teachers made comments about their relationships with children, and thirty five per cent about their pupils' progress. One teacher gave a whole list of dissatisfactions. They included lack of feed-back from the school's hierarchy, the extra hours spent coaching sport, playground duty, the multiple roles of teachers, the Education Board "playing chess" with staff, and an out-of-touch inspectorate. She concluded, however, that: "the saving graces left in teaching are the children and the challenge". Another teacher wrote:

"The work is quite rewarding when you can see progress, and growth in maturity, in a pupil from month to month."

Relationships with colleagues received favourable mention from twenty one per cent of the teachers, summed up in the comment: "I enjoy being part of a very friendly staff. If we did not have a very friendly staffroom atmosphere I would be very dissatisfied, as I find I need to mix with adults rather than children all day."

Replies to the question about factors contributing most to overall dissatisfaction were more wide-ranging, and more complex. Fourteen per cent made critical comments about aspects of school climate, and nine per cent specified poor relationships with colleagues. Some illustrative comments follow:

"Lack of good leadership, and lack of a general high expectation of children's behaviour throughout the school".

"General set ideas by school policy makers, which do not allow any flexibility: ('do this, this way!')

"(a) negative leadership from above; (b) lack of communication - never being told when changes on policy are made, (or) school programmes altered; (c) not being consulted or informed when any parent makes an enquiry about their child in my syndicate; (d) finding that the principal has told a parent that the child should be achieving a certain level and that the reason for failing to do this lies in the lack of teaching - no chance to inform parents of real needs in these cases."

"Too many 'don't' and 'must' rules applied to teachers in our school. Too much bickering over insufficient gear/ materials."

Thus, we have another apparent paradox. Positive relationships with children and with colleagues received high ratings in the questionnaire. Yet in the open-ended questions about sources of dissatisfaction, concern about relationships with colleagues, and to a lesser extent about children's behaviour, received frequent mention. The paradox can be resolved in two ways. First, a teacher may indeed find relationships with most of her colleagues satisfying, yet still find one colleague a source of great dissatisfaction - and stress. Second, teachers may make a distinction, consciously or unconsciously, between dissatisfaction over their relationship with specific colleagues, and dissatisfaction over the general climate in the school. Many of the comments seemed to focus on school climate, even though they implied a recognition that senior colleagues had substantial responsibility for creating school climate.

In Chapter 3 we suggested that school climate may exert an important influence both on the amount and on the nature of stress experienced by teachers. The present evidence suggests that it also exerts an important influence on the satisfaction they derive from their work. Further work is needed, though, in order to explain how school climate influences the attitudes of teachers towards their work.

Salary, lack of tenure and promotion policies, were all mentioned as an important source of dissatisfaction by a substantial minority of teachers. Typical comments were:

"Hate the whole promotion racket, ie grading."

"Lack of job stability; my performance is deteriorating due to constant change."

"The fact that PPTA salaries paid to members of our staff are higher than mine, for a less senior position and less call on time."

"Inadequate recognition by employing and salary fixing bodies."

The largest number of critical comments, however, related to the amount of time spent in lesson preparation. Twenty four per cent of the teachers mentioned this as a source of dissatisfaction. The demands made on teachers' domestic lives come through vividly in the following comments:

"Long hours spent after school making equipment which will be used in less time than it took to make, and may not be used again if you have a different level the following year."

"The amount of preparation time which encroaches into home life, and my guilt complex whether my children at school or at home suffer if I try to cut down or do more."

"I seem to be spending about five hours on a Sunday afternoon on school work. Sometimes I feel so guilty about going to the movies that it's easier to stay at home and do the work."

"Own personal feeling that I neglect my family even in the evening."

These teachers seemed to be finding themselves in an impossible situation. Either their work would suffer, or their family would suffer. There are two possible implications. One is that principals and senior staff need to recognise successful management of time as an important part of their colleagues' professional development. No lesson is ever prepared perfectly. Many teachers need guidance in order to recognise the point at which increased time spent on lesson preparation out of school hours becomes counterproductive. In the long run it is more important for their work with children that they should have time to themselves. Unfortunately, as we saw in Chapter 6, many principals also have difficulties in managing time. The second implication is simply that more adequate provision of ancillary support might substantially reduce feelings of dissatisfaction, by relieving teachers of some of their extraneous responsibilities. Recognising this, one teacher wrote:

"...... so much time being taken up in routine duties:

marking, maintenance of equipment, mixed paints etc, and things that could be done by untrained personnel."

The Relationships between Satisfaction, Stress and Health.

As noted earlier, a measure of overall satisfaction with teaching was derived from answers to the question: "What is your overall level of satisfaction with your job?" This measure of overall satisfaction was significantly but negatively correlated with the overall measure of stress ($r = -.44$; $p < .001$) : the greater the satisfaction, the lower the stress rating. The same tendency was found when we correlated the mean scores on the Satisfaction with Teaching Questionnaire with the mean scores on the Stress Inventory ($r = -.28$; $p < .001$).

Mean scores on the Satisfaction with Teaching Questionnaire also correlated significantly but negatively with those on the General Health Questionnaire ($r = -.34$; $p < .001$): the more symptoms of ill-health which a teacher reported, the lower her job satisfaction. In this respect, too, there seems to be a relationship between job satisfaction and stress; both have a significant relationship to health.

Neither the overall measure of job satisfaction nor the mean score on the questionnaire were significantly related to the total number of reported absences from teaching. In contrast, both were significantly related to the number of one day absences ($r = -.13$; $p < .01$; and $r = -.11$; $p < .03$ respectively). In other words, the lower the job satisfaction, the higher the number of one day absences.

Equally revealing were the items on the Satisfaction with Teaching Questionnaire which were most strongly associated with high scores on the General Health Questionnaire. Three items in particular stood out: "The attitudes of pupils toward learning" ($r = -.21$; $p<.001$); "The availability of ancillary staff to assist you" ($r = -.20$; $p<.001$); "The general behaviour of pupils in your class(es)" ($r = -.23$; $p<.001$). Thus, the results seem to indicate an important relationship between a risk of poor psychiatric health on one hand, and pupils' behaviour and the availability of ancillary staff on the other. What is not clear is the causal nature of the relationship. The evidence does not allow us to say whether poor health results from perception of unsatisfactory pupil behaviour and inadequate ancillary support, or vice versa.

SUMMARY

About eighty per cent of teachers rated themselves "fairly satisfied" or "very satisfied" with their job. The main sources of satisfaction lay in relationships with children and colleagues, and in other intrinsic aspects of their work. In contrast, the main sources of dissatisfaction lay in conditions of employment, and in public attitudes towards teachers.

There was similarity between the principal source of satisfaction, namely relationships with children, and a major source of stress, namely children's behaviour problems. It seemed likely that teachers regarded situations as stressful which prevented their primary needs for personal and professional satisfaction from being met. In addition we pointed out that a teacher might derive satisfaction from her relationships with children, yet experience acute stress from the presence of one disturbing child. Similarly, she might have satisfying relationships with most colleagues, yet feel extremely dissatisfied by the attitude of one individual.

A strong negative relationship was observed between satisfaction and stress, and between satisfaction and health. The lower a teacher's satisfaction with teaching, the more stress she reported, and the higher her score on the General Health Questionnaire. Moreover, there was a significant relationship between satisfaction and the number of one day absences reported, though not with the total number of absences.

CHAPTER 10 WHICH TEACHERS EXPERIENCE MOST STRESS AND WHY?

INTRODUCTION

Aims Previous chapters have reported the prevalence of sources of stress for the sample as a whole, the prevalence of health problems and symptoms which respondents reported, and the sources of satisfaction and dissatisfaction in teaching. These chapters made no attempt to discriminate between different groups of teachers. It is as important however, to know which teachers experience most stress, and from which sources, as it is to know the prevalence of sources of stress for the sample as a whole. Similarly, it is also important to know which teachers report most health problems, and which derive most (or least) satisfaction from teaching. In this chapter we report the results of statistical analyses which aimed to answer these questions.

METHOD

Stress, Health and Satisfaction: The "Dependent" Variables.

To compare the responses of selected groups of teachers, for example men and women, on all items in each questionnaire would involve an unacceptable amount of computing - and an indigestible number of results. To overcome these problems, we used the subscales derived from the principal components analysis of the Stress Inventory, the General Health Questionnaire, and the Satisfaction with Teaching Questionnaire. To create variables, we calculated the mean score of all items in each subscale. In addition, we identified selected items from the Background Information Questionnaire. The broad criteria for selecting items were (i) that a substantial proportion of teachers had reported stress from the item, and/or (ii) that they described sources of stress which were not covered by the Stress Inventory for Teachers, and/or (iii) that they had been reported as important sources of stress by other researchers. The dependent variables are listed in Table 10.1.

Groups of Teachers: The "Independent Variables" In selecting independent variables, we had access to two sources of information. One was the Background Information Questionnaire: Teachers. The other was the Background Information Questionnaire: Principals. By merging the information provided by a principal with the information provided by each teacher in his school, we were able to use information about the school zone and about aspects of its buildings when assessing the importance for different groups of teachers of each dependent variable. For example, we were able to test whether teachers' overall stress ratings varied according to the number of European children in the school, as rated by the principals. Similarly, we were able to see whether the Satisfaction with Teaching Questionnaire mean rating varied depending on the adequacy of the school's buildings as rated by the principal.

The two Background Information Questionnaires provided a large number of variables which could have been used in analysis. The criteria we used in selecting each variable were: (i) that it provided basic information about the biographical and professional characteristics of the sample teachers, or (ii) that it provided basic information about the school and/or the school zone, or

Table 10.1 List of Dependent Variables

Topic	Variable	Source
Stress	Overall stress rating	Background information questionnaire
	Stress Inventory mean rating	Mean rating of items in the five subscales of the Stress Inventory
	Children's behaviour	Subscale from factor one of Stress Inventory
	Teaching problems and children's progress	Subscale from factor two of Stress Inventory
	Staff relationships	Subscale from factor three of Stress Inventory
	Multiple roles	Subscale from factor four of Stress Inventory
	Extra duties	Subscale from factor five of Stress Inventory
	Teaching reading	Background information questionnaire
	Teaching Maths	Background information questionnaire
	Teaching Science	Background information questionnaire
	Teaching Music	Background information questionnaire
	Parent-Teacher interviews	Background information questionnaire
	Inspectors' visits	Background information questionnaire
	Class trips	Background information questionnaire
	Family Illness	Background information questionnaire
	Financial Worries	Background information questionnaire
	Encroachment of job on personal time	Background information questionnaire

Table 10.1 continued

Topic	Variable	Source
Stress	Obtaining next position	Background information questionnaire
Health	General Health Questionnaire mean rating	Mean rating of items in the five subscales of the G.H.Q.
	Under pressure	Subscale from factor one of G.H.Q.
	Run down	Subscale from factor two of G.H.Q.
	Loss of confidence	Subscale from factor three of G.H.Q.
	Sleep problems	Subscale from factor four of G.H.Q.
	Number of one day absences due to poor health	Background information questionnaire
	Total number of absences due to poor health	Background information questionnaire
Satisfaction	Overall satisfaction	Satisfaction with Teaching Questionnaire
	Satisfaction with Teaching Questionnaire mean rating	Mean rating of items in the five subscales of the Satisfaction with Teaching Questionnaire
	School administration and conditions of employment	Subscale from factor one of Satisfaction with Teaching Questionnaire
	Children's attitudes and progress	Subscale from factor two of Satisfaction with Teaching Questionnaire
	Interaction with colleagues	Subscale from factor three of Satisfaction with Teaching Questionnaire
	Recognition by society	Subscale from factor four of Satisfaction with Teaching Questionnaire
	Professional autonomy	Subscale from factor five of Satisfaction with Teaching Questionnaire

(iii) that other research had indicated the possible importance of the variable, or (iv) that our own preliminary analyses had indicated its possible importance. The variables, and the categories within each variable, are listed in Table 10.2.

The immediate question arising from the list of independent variables in Table 10.2 is whether they are inter-related. For example, age and marital status are likely to be related; many single teachers are less than thirty. A chi square test confirmed that there was in fact a highly significant relationship between age-group and marital status ($p < .001$). Appendix 7a gives details about the relationship between the other dependent variables. It shows that many of the structural and pupil intake variables are inter-related.

Faced with the inter-relationship between some of the independent variables, we had two broad choices. One was simply to discard the less discriminating variables from subsequent analyses. For example, we had four categories of age-group, but only three of marital status (Table 10.2). Thus if we were to drop the less discriminating variable, we would drop marital status. From a technical point of view, this would probably have been the most appropriate course. From a practical and educational point of view, however, we needed all the available information about the relationship between stress and other variables, whether biographical or professional. We therefore decided to retain all the

Table 10.2

Appendix 7f. Key to Appendices 7b, 7c, 7d and 7e
List of Independent Variables

Nature of Variable	Source	Variable Label	Categories*	
Biographical	Background Information Questionnaire: Teachers	Age	a) Under 30	(N = 122)
			b) 30-39	(N = 73)
			c) 40-49	(N = 65)
			d) 50+	(N = 31)
Biographical	Background Information Questionnaire: Teachers	Sex	a) Male	(N = 49)
			b) Female	(N = 246)
Biographical	Background Information Questionnaire: Teachers	Marital Status	a) Single	(N = 65)
			b) Married/living together	(N = 199)
			c) Separated/divorced/widowed	(N = 27)
Professional	Background Information Questionnaire: Teachers	Teaching Experience	a) Year 1	(N = 31)
			b) Year 2-4	(N = 64)
			c) Year 5+	(N = 195)
Professional	Background Information Questionnaire: Teachers	Nature of present appointment	a) Temporary position	(N = 104)
			b) Permanent position	(N = 187)
Professional	Background Information Questionnaire: Teachers	Commitment to remain in teaching	a) Life-time career	(N = 91)
			b) Will take time out but may return	(N = 87)
			c) Will stay for next few years, but may not continue permanently	(N = 99)
Professional	Background Information Questionnaire: Principals	Teaching or walking principal	a) Teaching	(N = 28)
			b) Walking	(N = 263)
	Background Information Questionnaire: Principals	Age of Principal	a) 50+	(N = 185)
			b) Less than 50	(N = 106)

10.2 Continued

Nature of Variable	Source	Variable Label	Categories*	
Demographic/ Structural	Background Information Questionnaire: Principals	Grade of School	a) Grades 1-3	(N = 76)
			b) Grade 4	(N = 129)
			c) Grade 5	(N = 86)
Demographic/ Structural	Background Information Questionnaire: Principals	Type of School	a) Contributory	(N = 163)
			b) Full primary	(N = 86)
			c) Intermediate	(N = 42)
Demographic/ Structural	Background Information Questionnaire: Principals	Location	a) Urban	(N = 250)
			b) Rural/town	(N = 41)
Demographic/ Structural	Background Information Questionnaire: Teachers	Classroom Organisation	a) Open-plan	(N = 43)
			b) Conventional	(N = 233)
Demographic/ Structural	Background Information Questionnaire: Principals	Adequacy of school building	a) Very satisfactory	(N = 81)
			b) Adequate	(N = 164)
			c) Not satisfactory	(N = 40)
Demographic/ Structural	Background Information Questionnaire: Principals	Playground Space	a) Very satisfactory	(N = 145)
			b) Adequate	(N = 74)
			c) Not satisfactory	(N = 72)
Pupil Intake	Background Information Questionnaire: Principals	Parent Incomes	a) Average/low income	(N = 72)
			b) Above average income	(N = 76)
			c) Mixed	(N = 110)
Pupil Intake	Background Information Questionnaire: Principals	Family Stress	a) Below 12 per cent of pupils	(N = 120)
			b) 13-25 per cent of pupils	(N = 86)
			c) Over 25 per cent of pupils	(N = 85)

Table 10.2 continued

Nature of Variable	Source	Variable Label	Categories*	
Pupil Intake	Background Information Questionnaire: Principals	European Children	a) Over 75 per cent of pupils	(N = 171)
			b) 75 per cent of pupils or fewer	(N = 120)
Pupil Intake	Background Information Questionnaire: Principals	Maori Children	a) Over 12 per cent of pupils	(N = 147)
			b) 12 per cent of pupils or fewer	(N = 139)
Pupil Intake	Background Information Questionnaire: Principals	Other Polynesian Children	a) Over 12 per cent of pupils	(N = 109)
			b) 12 per cent of pupils or fewer	(N = 153)

* Number refers to the number of usable replies on the overall stress rating.

independent variables, but to draw attention to the inter-relationship between some of them when reporting the results. These issues are discussed at greater length in appendix 7a.

Statistical Analysis We carried out a one-way analysis of variance between each independent variable and all the dependent variables. We investigated the possibility of carrying out two way analyses of variances in order to examine further the presence of a significant interaction between two independent variables. In the majority of cases, however, either the cell sizes were inadequate or the variance estimates failed to satisfy the assumption for the test, and only the one-way analyses are reported here.

RESULTS

Details of all analyses carried out, and of all statistically significant results, are given in appendices 7b, 7c, 7d and 7e. Table 10.2 is reproduced as appendix 7f, and acts as a key to appendices 7b - 7e. The intention in this chapter is to summarise the results in non-technical language. Unless otherwise noted, all differences that are reported were statistically significant.

BIOGRAPHICAL VARIABLES

Age Teachers aged less than thirty reported more overall stress than teachers aged fifty or over. They also reported more stress from childrens' behaviour than any other age group except forty to forty nine. Teaching

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reading and parent-teacher interviews were further sources of stress for young teachers compared with their older colleagues. Not surprisingly, teachers aged less than forty experienced more stress about obtaining their next position than older teachers.

Some sources of stress, though were more acute for older teachers. The multiple roles teachers are expected to undertake (see chapter 8) appeared more stressful to teachers aged forty to forty nine than to older teachers or to the youngest group. The forty to forty nine year old age group may feel they are at a critical stage in their careers, and experience particular frustration at the varied demands of the job. Also, they are likely by this stage of their careers to be in senior positions in the school, and hence particularly likely to have additional demands made on them.

Illness in their families was seen as more stressful to teachers aged thirty to forty nine than to younger teachers, possibly because fewer of the latter were married. Financial worries affected thirty to thirty nine year olds more than the youngest and the oldest groups. At this age, many teachers have young children, but may not yet have won a senior position, with commensurate salary.

In their response to the General Health Questionnaire, teachers under thirty more often seemed run down and experiencing loss of confidence than those in the older age-groups. In addition, they had taken more one day absences than colleagues in any of the other three age groups. They did not, however, report a greater number of absences in total. On all the satisfaction variables, teachers over fifty were more satisfied with their job than teachers under thirty. This was a general trend for satisfaction to increase with age.

In interpreting these results, it is important to remember that teachers aged fifty or over constitute a population of survivors. If they are still in the profession at this age, they may have learnt to cope with stress. Alternatively, the more stress-prone individuals may have left teaching. These possibilities should not, however, obscure the evidence about the sources of stress and of dissatisfaction for the youngest group of teachers. Principals and senior staff clearly have an important role in recognising these.

Sex Men reported more stress than women from teaching science. A possible explanation is that men are more often required to teach science, and feel unprepared. Interestingly, men also reported more stress from inspectors' visits. If the men were more ambitious then visits would have greater importance. In keeping with the stereotype of the men as the bread-winner, men expressed more stress over financial worries. They also seemed to derive greater satisfaction from the professional automomy available to them in their work.

In contrast, women reported more stress from the encroachment of job demands on personal time. They more often felt under pressure, and they took more one day absences, and more absences in total. Although the Background Information Questionnaire asked explicitly about absences "because of your own illness", it is nevertheless possible that some of the women teachers' absences were due to illness of other members of their families. There may, for example be more pressure on the wife to stay at home if a child is ill than on the husband. Women teachers did not, however, report significantly more stress from family illness than men.

Marital Status Single, married and separated or widowed teachers did not differ to an important degree in their responses to any of the health and satisfaction variables. Not surprisingly, family illness appeared a more important source of stress to married than to single teachers, and financial worries more important to separated or widowed teachers. Obtaining their next position was more stressful to single than to separated teachers. This is almost certainly related to age and the fact that many single teachers did not hold a permanent appointment.

PROFESSIONAL VARIABLES

Teaching Experience. As would be expected from the results on age, there was a general tendency for teachers at an early stage in their careers to report more stress than experienced teachers. This tendency was most marked for teachers in their second to fourth year in the profession, who reported a lot more stress than teachers in their fifth year of service or beyond from childrens' behaviour and from the teaching of reading. Their mean scores on the Stress Inventory were also higher. Class trips were more stressful to first year teachers than to colleagues in either of the other groups but all teachers in years one to four reported more stress than teachers in years five or beyond about obtaining their next position. This is probably inevitable from the nature of the limited tenure system. Although teachers are eligible to apply for a permanent post before the end of their first year, in practice their chances of success before the end of their fourth year are very limited indeed.

Teachers in years one to four had higher scores on the "run down" subscale of the General Health Questionniare. This confirms the results of analyses by age. It is worth recalling here that the survey was carried out in August, towards the end of the winter term. It seems that young and/or inexperienced teachers may be more susceptible to the cumulative effect of stress experienced throughout the term.

Teachers in year five and beyond were generally more satisfied with their job than less experienced teachers, though this only reached statistical significance in the comparison with year two to four teachers. The only subscale on the Satisfaction with Teaching Questionnaire which did not discriminate between these groups was children's attitudes and progress.

Nature of Present Appointment This variable enabled us to compare the response of teachers who held a permanent position with those who held temporary positions. The latter included long-term relievers with limited tenure posts. The results were almost identical with those obtained on the teaching experience variable, described in the last section. In each case, teachers in temporary positions reported more stress, less satisfaction, and more symptoms associated with being run down than teachers with permanent posts.

Commitment to Remain in Teaching Teachers who said they would take time out from teaching but might return, experienced more stress about obtaining their next position than teachers who said they would stay for the next few years, but might not continue permanently. Compared with these groups, teachers who stated explicitly that teaching would be their life-time career, derived greater satisfaction from recognition by society, according to scores on the Satisfaction with Teaching Questionnaire. It is by no means clear whether society does, or can, discriminate between teachers who intend a life-time career in teaching and other teachers. We can consider four reasons why the former should feel more satisfied with their recognition by society: (i) they may in fact receive more favourable feed back from members of the community; (ii) they may need to *feel* that their contribution is valued; the thought of spending their life in a low status occupation may be too painful to contemplate; (iii) Teachers who plan a break in service may be a less settled group, either for temperamental or for professional reasons; (iv) women who expect to leave teaching for family reasons may feel that society undervalues them, expecially if, as our results suggest is possible, they anticipate difficulties about re-entering the profession at a later stage.

Teaching or Non-Teaching Principal Whether a school has a teaching or a non-teaching principal depends on its grade, which in turn depends on factors such as the number of pupils and the presence of special education facilities. Hence, it is of interest that the sources of stress are not identical for the two variables, grade of school, and teaching or non-teaching principal. All the significant differences favoured teaching principals. Thus, teachers whose school had a teaching principal reported less stress from staff relationships than teachers with a non-teaching principal. They also had lower scores on the Stress Inventory mean rating. Teachers with non-teaching principals reported worse health on the mean rating of the General Health Questionniare; subscale scores suggested that they felt under greater pressure, more run down, and were more likely to suffer from depression. Teachers with teaching principals appeared very significantly more satisfied with their jobs on all subscales of the satisfaction with Teaching Questionnaire.

It seems unlikely that these results are wholly attributable to the fact that teaching principals have smaller schools.

Analysis of responses according to school grade (below) suggests a more complex picture. It is therefore, worth considering whether non-teaching principals may sometimes adversely affect the work of their colleagues and reduce their job satisfaction. One possibility, noted in chapter 5, is that non-teaching principals may experience greater role conflict. Their frustration at the varied professional and administrative aspects of the job could have a wide-ranging effect on school and classroom climate. In addition, non-teaching principals may have greater opportunity to observe, and hence, sometimes to be irritated by, the work of colleagues. The boundary between professional support and interference is a fine one, calling for a high level of leadership skills. A further possibility is that teaching principals tend to be more flexible and/or less ambitious, and that this is reflected in their interaction with colleagues.

Age of Principal Teachers whose principals were over the age of fifty reported more stress from the multiple roles they were required to undertake, and had more absences from work due to poor health. They also appeared less satisfied with their work than teachers with younger principals, both on the mean rating of the Satisfaction with Teaching Questionnaire and on three of the five subscales. While it is important to recognise a tendency for older principals to have larger schools in urban areas, it is also worth asking whether they may be more likely than younger principals to adopt a leadership style which may inadvertently cause stress or reduced job satisfaction to their colleagues.

DEMOGRAPHIC AND STRUCTURAL VARIABLES

Grade of School In analysing responses by the grade of the teacher's school, we combined grades one to three. Teachers in these smaller schools reported less stress on the mean rating of the Stress Inventory. More particularly, they reported less stress from children's behaviour problems. Both in grade one to three schools and grade four schools teachers noted more stress from teaching maths or science than their colleagues in grade five schools. As four of the seven grade five schools in our sample were intermediates it is possible that this result could be attributed to intermediate school teachers feeling more comfortable with these subjects. It is not, however, clear that this is the case. When we analysed the responses according to the type of school, no major differences were found in stress associated with teaching science. Although maths teaching did cause less stress to intermediate school teachers, the differences were not so great as between teachers in grade four and grade five schools.

Financial worries were reported as more stressful by teachers in grade five schools than in grade four schools. In this case, there is greater evidence that the difference is associated with the fact that the intermediate schools in the sample were grade five. Intermediate school teachers reported more stress from financial worries than teachers in contributing primary or full primary schools, (though the difference was greater in the comparison with full primaries).

The different salary scales for teachers in intermediate schools are widely believed to be a source of resentment which is likely to be linked with feelings of stress associated with financial worries.

There was a strong tendency on the General Health Questionnaire mean rating and on three of the subscales for teachers in grade four schools to report more symptoms than their colleagues in grade five schools. The reasons for this are unclear and require further investigation. They do not seem to be attributable to obvious demographic variables; both were located in urban areas, and analysis by location of school revealed no significant differences. Nor did we find any significant differences in health ratings on analysis by type of school. Thus, the fact that four out of seven grade five schools were intermediates is probably not relevant to the fact that grade five school teachers reported significantly fewer health problems than their colleagues in grade four schools.

The mean rating on the Satisfaction with Teaching Questionnaire showed greater job satisfaction amongst teachers in grade one to three schools than in grade four schools. Grade five school teachers reported more satisfaction from school administration and conditions of employment than teachers in grade four schools. This is consistent with their tendency to report fewer symptoms of ill health.

Type of School We compared responses of teachers in full primary, contributing primary and intermediate schools.

Some of the results were noted when discussing the analyses by school grade.

Intermediate school teachers reported less stress from teaching reading than colleagues in full or contributing primaries. The explanation is presumably that most children can read by the time they reach intermediate school, (though one intermediate principal did say that children's average reading age on admission to his school was 6½ - 7½; one reason why he felt stress from this was that many teachers in the school did not!).

The mean rating of the Satisfaction with Teaching Questionnaire revealed teachers in full primary schools as more satisfied with their work than teachers in intermediates. More specifically, both they and contributing primary school teachers reported greater satisfaction from children's attitudes and progress than their intermediate school colleagues.

Location Owing to the relatively small number of teachers in our sample of rural schools, we merged them with teachers from town schools. We then compared their combined responses with urban school teachers.

Teachers in urban areas reported more stress from children's behaviour. They were also more likely to experience stress over the problem of obtaining their next position. This is probably related to the greater competition for vacancies in urban areas. They reported more absences from work due to poor health, though not more symptoms on the General Health Questionnaire. Conversely, teachers in town/rural areas reported more satisfaction from recognition by society.

We should point out, though, that evidence from principals in chapter 6 suggested that enormous stress can result from community pressures if relationships turn sour in rural areas.

Classroom Organisation Teachers in open plan classes had significantly lower mean scores on the Stress Inventory than teachers in conventional classrooms. They reported less stress on four of the five subscales: children's behaviour, teaching problems and children's progress, multiple role, and extra duties. They also noted less stress from teaching reading. Finally, inspector's visits were associated with much less stress for teachers in open-plan classrooms than conventional classes.

Part of the explanation may lie in demographic factors unrelated to classroom organisation. Table 1 in appendix 7a shows a relationship between this variable and the pupil intake variables. It seems most unlikely, however, that this is the whole explanation. Other possibilities are: (i) behavioural and learning problems are reduced in an open-plan flexible teaching space, (ii) that problems are less visible and hence less disturbing in such a space even if the problems are not actually reduced; (iii) that teachers support each other in open-plan classes, and hence prevent problems that might otherwise arise; (iv) that teachers enjoy open-plan classes, and that this mitigates the effect of potentially stressful events or situations. It seems likely that the team teaching approach implicit in an open-plan classroom may reduce the stress associated with inspector's visits.

Adequacy of School Buildings The principals' assessments of the adequacy of the school's buildings were not related to teachers' responses on the stress or the health items in any important way. However, teachers whose principal rated the school's buildings as adequate reported more satisfaction on the Satisfaction with Teaching Questionnaire mean rating than teachers whose principals rated the building as not satisfactory. They also reported greater satisfaction from children's attitudes and progress, and from school administration and conditions of employment.

Playground Space and Quality When the principal rated playground space as unsatisfactory, teachers had higher mean ratings on the Stress Inventory than when he recorded it as very satisfactory or as adequate. Unsatisfactory playground space was associated with greater stress from teaching problems and children's progress than playgrounds rates as satisfactory. Similarly, both staff relationships and extra duties seemed to cause greater problems when the playground was rated unsatisfactory than when it was rated adequate. Teachers in schools with satisfactory or adequate playgrounds reported more satisfaction from school administration and conditions of employment. Analysing responses according to the principal's rating of the quality of the school's playground, as opposed to the space, did not substantially add to these results.

PUPIL INTAKE VARIABLES

Parent Incomes Our measure of parent incomes was derived from the principal's assessment of his school's district. Rural schools were omitted from this analysis owing to the small numbers involved.

Teachers whose principals thought the school zone consisted predominantly of families with average/low incomes reported more overall stress than teachers in schools with a wider social mix. Children's behaviour was associated with greater stress in the schools with mixed family incomes than in schools where most families had above average income. Illness in the teacher's own family and the encroachment of the job on personal time were connected with greater stress in teachers in mixed income schools compared with the average/low income group. The reasons for this are unclear. It is certainly possible that a wide social, and possibly educational mix, in the pupils may be an important source of stress, but this does not explain why it should be reflected in these particular variables.

There was a fairly strong tendency for teachers in schools with a mixed income zone to report more sleep problems than teachers in schools with a zone with above average incomes. Mean ratings in the Satisfaction with Teaching Questionnaire showed the above average group to be more satisfied with their job than teachers in either other group. More specifically, they expressed greater satisfaction about children's attitudes and progress. Compared with teachers in average/low income zones, they also expressed more satisfaction on the recognition by society subscale. In contrast, teachers in average/low income zones expressed greater satisfaction about their level of professional automony than teachers in mixed zones. It is possible that certain pressures from parents and from society are less acute in such areas, for example, pressure to achieve high academic standard. If so, this could give teachers a greater sense of freedom to try out new methods.

Family Stress Our categories of family stress were derived from the principal's assessment of the number of pupils coming from 'homes with some difficulty'. There were three categories: below twelve per cent; thirteen to twenty five per cent; and over twenty five per cent.

Teachers in schools where over twenty five per cent of pupils came from homes with problems reported more overall stress than teachers in schools where less than twelve per cent of pupils were known to have family problems. They recorded a higher mean rating on the Stress Inventory, and experienced more stress from the children's behaviour subscale and from teaching science. In addition, they experienced more problems from teaching reading compared with teachers in schools where thirteen to twenty five per cent of pupils were known to be experiencing family stress.

Although the three groups did not differ on subscales from the General Health Questionnaire, teachers in schools with over twenty five per cent of pupils known to be experiencing family stress reported more one-day absences than teachers in both other groups. On the Satisfaction with Teaching Questionnaire mean rating, family stress in below twelve per cent of pupils was associated with a high satisfaction level when compared with over twenty five per cent. Not surprisingly there was a direct relationship between satisfaction on the children's attitudes and progress subscale, and the number of children coming from problem homes; the more children coming from such homes, the less their teacher's satisfaction. The same tendency was evident, though less marked, on the recognition by society subscale.

Children of European Origin In the Background Information Questionnaire, the principal stated the proportion of children on roll who were of European origin. In analysing the results we compared the responses of teachers in schools which had more than seventy five per cent of pupils of European origin with teachers in schools which had seventy five per cent or fewer.

Teachers in schools with the higher proportion of children of European origin reported less overall stress, less stress on the mean rating of the Stress Inventory, less stress on the children's behaviour and the teaching problems and children's progress subscale, less stress from teaching science, and less stress about obtaining their next position. They also reported having taken fewer one day absences and fewer absences in total. They expressed greater job satisfaction on the mean rating of the Satisfaction with Teaching Questionnaire and on all the subscales except professional autonomy.

These results are unequivocal. For the teachers in our sample, stress was reduced and satisfaction increased when more than three quarters of the pupils on roll were of European origin. This was apparently reflected in absences from work, even though there were no important differences between the two groups on General Health

Questionnaire scores.

Maori and Other Polynesian Children We carried out analyses on the responses of teachers with more than twelve per cent of Maori pupils on their school's roll, (as reported by the principal), and of teachers in schools with twelve per cent or fewer Maori pupils. We did the same for other Polynesian pupils. The results for Maori and for other Polynesian pupils were similar, and will be reported together.

Overall stress ratings and stress associated with children's behaviour were higher in schools with a higher proportion either of Maori or of other Polynesian pupils. The Stress Inventory's teaching problems and children's progress subscale was reported as a more notable source of stress by teachers in schools with a high proportion of Maori pupils. Teaching science seemed stressful to teachers in schools with a high proportion of other Polynesian pupils. In schools with twelve per cent or fewer Polynesian pupils other than Maoris, teachers reported fewer one day absences and fewer absences in total. In schools with twelve per cent or fewer Maori pupils, teachers reported fewer one day absences, but not fewer absences in total.

A high proportion either of Maoris or of other Polynesian pupils was associated with reduced satisfaction on the mean rating of the Satisfaction with Teaching Questionnaire, and on the children's attitudes and progress subscale. A high proportion of Maori, though not of other Polynesian children was associated with reduced satisfaction on two further subscales: recognition by society, and school administration and conditions of employment.

CONCLUSIONS

We placed the variables for analysis in four broad and overlapping groups: biographical, professional, demographic/structural and pupil intake. The results suggested that variables in each group were important sources of stress and/or satisfaction for some teachers. In this section our aim is to identify some of the issues emerging from the analyses. We are not aiming to discuss their implications. We shall deal with the implications in Chapter 11.

The Principal's Influence We treated age of principal and teaching or non-teaching principal as professional variables. There is an argument though, that they should have been placed with demographic/structural group of variables. Non-teaching principals tend to have larger schools, and vacancies for principals of such schools are often filled by more experienced, and hence older teachers. Yet the principal's influence should not be underestimated. On the General Health Questionnaire, teachers with non-teaching principals reported significantly more symptoms than their colleagues with teaching principals. Moreover, they experienced a great deal less satisfaction from their work. Analysis by school grade confirmed the high number of symptoms, particularly amongst teachers from grade four schools, but did not confirm the Satisfaction findings to nearly the same extent. The principal's age, too, seemed more important to teacher's satisfaction than the school grade.

An American study has reported teachers as naming the principal as the person who could do most to improve their health and relieve stress (Landsmann, 1978). Our study did not aim to confirm or to deny this view. Yet it did suggest, indirectly, that aspects of management and leadership style may have an important influence on teacher's experiences of stress and of job satisfaction.

Teachers' Health. Pupil intake variables appeared almost completely unrelated to teachers' health, as reported on the General Health Questionnaire. Apart from the high scores recorded by teachers in grade four schools, this also applied to all the structural variables. The variable which most clearly discriminated between groups of teachers were biographical, especially age, and professional, expecially whether the school had a teaching or a non-teaching principal.

As we noted in Chapter 7, it is unclear how far absences attributed to poor health do in fact constitute a valid measure of poor health. The correlation between General Health Questionnaire scores and the total number of absences was positive and statistically significant, but accounted for only a small part of the variance. The correlation between General Health Questionnaire scores and the number of one day absences was not even statistically significant. Evidence from comparison between groups of teachers tends to support the view that the relationship between absences from work and health is, at best, ill-defined. It is noteworthy, though, that young teachers took more one-day absences than older colleagues, as did teachers in schools with a high proportion of children from problem families, and from schools with a proportion of Maori children. In schools with a high proportion of Polynesian children other than Maoris, and a low proportion of European children, teachers reported both a high rate of one day absences and a high total absence rate. Teachers in these groups also experienced high levels of stress. Overall the evidence suggests that feelings of stress are frequently associated with one day absences, and hence may contribute to high absence rates in general.

Age and Experience. The results show that young teachers and teachers with temporary appointments are particularly vulnerable to stress, and experience a great deal less job satisfaction than their older and/or more experienced colleagues. It is not known how frequently unhappy experiences at the start of a teaching career contribute to the very high rate at which teachers leave the profession within their first four years (Doyle, 1980). This is a subject which could repay further investigation. A more immediate need, though, is to provide support for those currently in post. We return to this in the final chapter.

The School's Physical Resources. The adequacy of the school's buildings and of its playground were not related to stress or health, but they were related to teachers' feelings of satisfaction: the less satisfactory the physical resources of the school, the less job satisfaction reported by teachers. This finding is of interest as other recent work has tended to play down the importance of physical variables, such as buildings, and to emphasise that of attitudinal and organisational variables, (e.g. Rutter et al, 1979).

The Pupils. The results indicate clearly, though not surprisingly, the influence of the school zone, and hence of the school's pupils, on the stresses and satisfactions experienced by its teachers. This is not the place to review the extensive sociological literature on the clash between the allegedly middle class values of teachers and the working class culture of the majority of pupils in some schools. Nor is it the place to review the literature on the meeting between Pakeha and Polynesian cultures. We simply wish to place on record a very strong tendency for teachers reporting least stress and most satisfaction to work in schools with few Maori or other Polynesian pupils.

Our results do not show why this is the case. Indeed, a separate chapter could be devoted to discussion of the possible reasons. The school's ethnic groupings may not even be particularly relevant. In Sheffield, England, Pratt (1978) showed that stress increased in proportion to the number of children coming from homes with financial hardship, and hence, implicitly, lower socio-economic status. This could also be the critical variable in our own results. Whatever the explanation, our results suggest strongly that teachers in schools with average or low income zones, and/or a high proportion of Maori or other Polynesian children, have very definite needs for professional support.

PART V

IMPLICATIONS

CHAPTER 11. SOME IMPLICATIONS AND CONCLUSIONS.

OVERVIEW

Part I of this report reviewed the local and overseas literature on teacher stress. Part II outlined the scope of our own research programme and explained how it was planned. Parts III and IV described the results of surveys of primary school principals and of primary school class teachers respectively. In reporting the results the aim was to provide factual statements about the methods adopted and the results obtained. Discussion of the results was kept relatively brief, and aimed to draw attention to possible interpretations, rather than to speculate on the implications either for national policy, or for policy at school level.

This chapter, however, does have the broader aim of speculating on the policy implications of the results. It is a rash undertaking. Earlier chapters have drawn attention to possible methodological criticisms of the instruments used, and hence of the results obtained. More important, results can legitimately be interpreted in different ways by different people. No pretence is made that the conclusions reached in this chapter are the only ways of interpreting the results. Other people may, quite reasonably, come to radically different conclusions. The two related aims are:

(i) to focus discussion on what seem to the author to be some of the most interesting results. and on their possible implications; and

(ii) thereby to promote further discussion about these results.

LIMITATIONS IN THE STUDY.

The Surveys. Before dealing with the results and their possible implications, it is appropriate to repeat the basic aim of the study. It was conceived as a wide-ranging survey, not as an intensive analysis of a limited part of the problem. For reasons of time and expense we needed to limit the study to the North Island part of the Wellington Education Board area. For practical reasons which we discussed in chapter 4, we needed to visit all schools in our sample. The effect of these decisions was that the sample size remained relatively small. To some extent this disadvantage was offset by the high response rate. It did, however, impose some limitations on the statistical analyses which could legitimately be carried out. In reporting the results we have tried to err on the side of caution.

Coping Strategies. Apart from two questions in the interview with school principals, the research programme did not investigate coping strategies. Instead it focussed on the prevalence and sources of teacher stress, and on the related topics of health and job satisfaction. The appropriate solutions to sources of stress depend on what those sources are. Much of the limited research on teachers' coping strategies has adopted a psychological model which may not always be helpful. In Chapter 2, for example, we noted Kyriacou's (1980a) observation that the coping strategies of English secondary school teachers fell into three groups: talking to other teachers, considering their situation and taking action to relieve the stress, and forgetting about stress at work by directing their attention on to other things. There are two objections to an emphasis on individual coping strategies. One is that it overlooks, or at least diverts attention from, the need to tackle the national or local policies which may create stress. Second, the usefulness of coping strategies is not always imediately obvious. What sort of coping strategies, for example, will be helpful to a committed limited tenure teacher, about to lose her position, who has already received a dozen rejection slips? An understanding of individual coping strategies is important. Yet coping strategies may also be studied from a sociological perspective which explicitly recognises the constraints imposed by national and local policies. The present study has made a start in identifying some of the policies which are relevant to teacher stress.

STRESS, HEALTH, SATISFACTION, AND ABSENCE.

Stress and Health. Comparison with Borland's (1964) results suggests that health problems may have become a great deal more prevalent amongst primary school teachers. Over a quarter of teachers said they had "low vitality", or that they had little resistance to colds or periods of extra strain, even though they had sufficient energy for ordinary work. More than most people, teachers are exposed to infections such as colds. More than most jobs, teaching involves periods of extra strain.

A further cause for concern is that the General Health Questionnaire identified forty four per cent of teachers as being at risk of minor, non-psychotic psychiatric disorder. Pratt's (1978) survey of primary school teachers in Sheffield, England, identified only twenty five per cent as being at risk. The two sets of data on teachers' health give cause for considerable concern. Further investigation is urgently needed. Two possibilities might usefully be explored.

First, our survey took place towards the end of the second term. This tends to be a busy time of the year; teachers may have been feeling tired and run-down. If so, they might have reported symptoms which were unrepresentative of how they usually felt. Repeating the health survey at different times of the year would show whether or not this was the case. It does not, however, seem very likely. The number of days absent from work reported by teachers in our sample was also substantially higher than in Borland's. This cannot easily be attributed to the time of year the surveys took place.

If time of year did turn out to explain the high rate of ill-health in our sample, it would be necessary to look carefully at the demands imposed on teachers by the length of school terms and by the structure of the school year. Several teachers suggested that a four-term year would help to reduce stress. Their argument was that four shorter terms, with breaks in between, would help to prevent the exhaustion which builds up with the current length of terms.

It is worth observing here, that teachers in New Zealand have two weeks less annual holiday than their counterparts in England. One wonders whether English teachers and children gain or lose from the extra two weeks holiday. Informal observation, and discussion with teachers, suggests that by the final two or three weeks of the second and third terms of the year, many teachers are too tired to maintain their own enthusiasm, or the enthusiasm of their pupils.

If the timing of our survey turned out not to be a relevant factor in our results, it would be imperative to

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consider other explanations for the high prevalence of ill-health. Our results showed a fairly consistent relationship between stress and ill-health. To attribute the apparent increase in ill-health to an increase in stress is not, however, justified by our results. Moreover, to do so might be too simplistic. Our results show that children's behaviour and progress are major sources of stress. They also show that stress is particularly prevalent amongst teachers with limited tenure and that a high proportion of teachers are worried about obtaining their next teaching position. It is not impossible that our results reflect a chronic loss of confidence in teaching as a career amongst a substantial minority of teachers. Certainly, some of the most highly rated items in the General Health Questionnaire often reflect a long-standing feeling of malaise, for example: "Been feeling run down and out of sorts?" "Been getting up feeling your sleep hasn't refreshed you?" "Felt constantly under strain?"

Stress and Absence from Teaching. A teacher's score on the General Health Questionnaire was fairly strongly related to the total number of days she had been away during the year because of her own illness. It was not so reliably related to the number of one day absences she reported. Conversely, reported stress was associated with the number of one day absences, but not with the total number of absences. Of equal interest, young teachers tended to report more one day absences than other groups, but not more days absent in total. The same pattern emerged from the Satisfaction with Teaching Questionnaire. The less satisfied teachers took significantly more one day absences, but not more days absent in total. Overall, the results suggest that there is a relationship between one day absences from teaching, and feelings of stress and/or dissatisfaction with the job.

It might be tempting to interpret these results as indicating unnecessary absences from teachers who lack adequate commitment to their work. A more realistic way of looking at the evidence, though, is to see one day absences as a necessary withdrawal, enabling the teacher to continue work without withdrawing altogether. This, in essence, was how Simpson (1962) saw temporary absences from work in his study of Scottish teachers.

Yet absences may also reflect a loss of confidence in the value of the job. Teachers with no guarantee of continued employment may not feel that their contribution is needed and valued. Taken as a whole, our results show clearly that stress results not only from events at school, but also from conditions of employment and from anxiety about the future.

For the first time since 1945, educational services are contracting. In these circumstances, problems over current conditions of employment, and over future employment are likely to appear more stressful to more teachers than for many years. Further, it is not unreasonable to suppose that potential stresses in the classroom may appear particularly intolerable to teachers who feel angry, anxious or dissatisfied over their career prospects. Teachers, like everyone else, work best within a framework of basic security. Given such a framework, they may be able to cope successfully with stress. When the framework is lacking, as it is now lacking for many teachers, they may be much more susceptible to the damaging effects of stress.

Absences should be seen in this context. They cause stress for school principals who sometimes resent having to find replacements for the teachers concerned. Yet the evidence strongly suggests that they are a symptom of stress too. Whether the stress arises from problems at school, or from wider factors related to conditions of employment is not clear. The fact that teachers aged less than thirty, many of whom would lack job security, were a "high risk" group for one day absences suggests that the second alternative cannot be ruled out.

CONDITIONS OF EMPLOYMENT

The possibility has already been raised that conditions of employment may cause feelings of stress, and hence contribute to poor health and to absences from work. The aim in this section is to draw attention to specific areas of stress.

The Inspectorate. Well over half the teachers in our sample reported feeling "quite a lot of stress" or "extreme stress" from inspectors' visits. Almost three quarters expressed dissatisfaction over "the methods used to grade teachers for promotion". In a sense, inspectors are an easy target - a ready made "Aunt Sally". Criticising inspectors implies no disloyalty to colleagues in the school. Moreover, criticism from inspectors can clearly be dismissed as easily because it reflects an antiquated, out-of-date viewpoint as because it reflects a trendy, out-of-touch one.

To dismiss our results in such a way is not justified. The inspectorate still exerts great power over teachers' careers. Inspectors may wish to be seen as sources of constructive help and advice. The fact remains that every teacher seeking promotion knows that an inspector's decision can make or break her career. If teachers were confident that all inspectors followed the same policies, and used the same criteria, this might conceivably be accepted. In fact, inspectors vary as much as teachers in their acceptance or their rejection of fashionable educational theories. Whatever formal policies or formal criteria an inspector uses to assess teachers, there will always be a suspicion that his own idiosyncratic views will influence his eventual judgement. One principal expressed the problem clearly:

"It depends on who you get. You get to know him, but if you have a change as we've had recently, you get another who puts across a different viewpoint. They have authority and they help to establish bandwagons. I think this causes great uncertainty in the minds of young teachers .... Inspectors are trying to alter the triennial school inspection to make it more of a collegial thing - to do it more in consultation with the staff. You get an inkling of what is going into the report from what they say to you, but you can still have a bombshell land on your plate. Teachers feel they are being put on the line. I think there'll always be this dichotomy. An inspector is an inspector. You cannot have a dual role."

It would be interesting to know whether secondary school teachers see inspectors in a more favourable light. Formal grading is no longer required as a basis for promotion in the secondary service. There can be little doubt that teachers need support from external services. Our results on stress arising from teaching curriculum subjects, and from children's progress and behaviour, make this clear. The question is whether a teacher can feel able to seek help and support from an inspector whom she may have to impress favourably in order to obtain a favourable grading report. A related question is whether the current grading system is an appropriate way to identify the teachers most suitable for promotion. There are two issues. First, are the people who succeed in impressing the inspector the most suitable candidates? Second, are some teachers inhibited from applying for a grading because they fear rejection or lack confidence in the system? From the inspectorate's perspective, it is arguable that their grading responsibilities prevent them from carrying out other, potentially more valuable, activities.

Limited Tenure. "I've got a marvellous year three teacher, but she's got to go." The anger and frustration that principals felt about the limited tenure system was equalled only by that of the teachers themselves. Another principal told the research worker about an outstanding teacher who had had to leave the school the previous term. After repeated efforts to find another teaching job, she was now working in an office in Central Wellington. There may well be vacancies in rural areas, but few teachers can uproot their families. Teachers may apply for a permanent position half way through their first year. Their chances of obtaining one before the end of their third year are not at all high. By this time many teachers are no longer mobile.

The stress associated with insecurity of tenure is pervasive. It may, as we noted earlier, have contributed to the apparent rise in absence rates since Borland's (1964) study, especially one day absences. It may also be associated with the disturbing findings on teachers' health. It may reduce a teacher's commitment to her work, and hence her capacity to cope with classroom problems. There is no easy answer to the problem of tenure. It should nevertheless be clearly recognised that widespread feelings of insecurity are personally damaging to the individuals concerned. They are also damaging to the quality of service which these individuals can provide.

Ancillary Support. Teachers who expressed dissatisfaction over the level of ancillary support tended to take a disproportionate number of one day absences from school when compared with other teachers. They also reported disproportionately high levels of stress, both on the overall stress rating, and on the Stress Inventory for Teachers. Replies to the open-ended questions at the end of the Satisfaction with Teaching Questionnaire frequently expressed concern about the time required for preparation, and about the lack of time to attend to individual children. Two comments illustrate this concern.

"The amount of time I spend tying shoe laces ....mopping up spilt drinks".

"Size of class and lack of additional help to enable me to give as much time as I would like to each individual pupil."

Provision of ancillary help is likely to become an increasingly contentious issue. The reason lies in the growing movement to integrate handicapped children, and children with learning or behavioural problems, into ordinary classes. The effect of such children on their teachers' experiences of stress lay beyond the scope of our study. Yet the fact that children's progress and behaviour were seen as important sources of stress suggests that it may be considerable. Provision of adequate ancillary support is one way of mitigating the effect of such stress. It may be particularly necessary in disadvantaged areas where, according to our results, teachers are particularly susceptible to stress.

PERSONAL AND PROFESSIONAL DEVELOPMENT.

Principals. Evidence both from interviews with principals, and from the Stress Check List for Principals, identified management of time as an important source of stress for them. The single issue which emerged most strongly was the multiplicity of responsibilities and pressures facing them. It may be that teaching principals tended to report less stress because they were to some extent shielded from continual demands, simply by being in the classroom. It may also be the case that they felt more confident of their role as teachers than their colleagues in larger schools with a "walking" principal.

A further source of stress for many principals lay in how to react to difficult situations concerning colleagues. How could they tackle a colleague about something they considered unsatisfactory without causing resentment, and perhaps making the problem worse? Some principals, as we saw in Chapter 6, had worked out successful strategies. Many still felt acute stress when problems arose with colleagues.

The results suggest that management courses for senior staff might usefully focus explicitly on management of time, and on handling interpersonal relationships. Whether such courses would be most helpful before appointment as a principal, or soon after taking up appointment, is not clear. Nor is it clear what training methods would be most helpful. There is a need for more extensive inservice training, and for systematic evaluation of different approaches.

Class Teachers. At first glance, two of our results might seem contradictory. Children's behaviour was a major source of stress, yet relationships with pupils were an important source of satisfaction. The probable answer is that one child may cause stress, even though the teacher may feel satisfied with her relationship with the remainder. There is a clear need for support in the classroom from specialist advisory services. The need is equally clear for more extensive provision for inservice education. The core curriculum areas cause substantial stress to an important minority of teachers. Concern about children's behaviour and about their progress causes stress to a high proportion, especially in schools which do not have a high proportion of pupils of European origin. Providing a wide range of inservice courses - and relieving teachers so that teachers may attend them - is one way to reduce this sort of stress.

We have said little about specific strategies for coping with stress. As we noted in Chapter 2, attempts to reduce stress have fallen into two groups: helping teachers to acquire further professional skills which may enable them to tackle the sources of stress, and helping them to cope more effectively with stress when it actually occurs, for example, by means of relaxation techniques. Research has not provided any obvious choice between the two approaches. Nevertheless, the present study has identified several sources of stress in the professional areas of the curriculum and classroom management. A direct approach in tackling them seems sensible.

A word of caution is nevertheless needed. Inservice education which aims to help teachers cope with curriculum and management problems is undoubtedly needed. Yet in one sense even this may be tackling the symptoms rather than the cause of stress. If the cause lies in deep-rooted feelings of anger, anxiety or insecurity over future career prospects, no amount of professional support or training is likely to have a great impact. Stress is a multi-faceted problem. It requires a multi-faceted solution.

CONCLUSIONS.

The usefulness of research may be judged by its effect on policy and practice. It may also be judged by the extent to which it stimulates discussion and provokes further investigation. Researchers are frequently criticised for concluding that more research is needed. To some extent the criticism is legitimate. People who commission research have a right to more than a plea for further research! Yet it is precisely when research findings are of interest that further research is most needed.

The results of the General Health Questionnaire, for example, showed that forty four per cent of teachers were at risk of minor psychiatric disorder towards the end of the second term in the school year. As noted earlier, this provides cause for profound concern. The findings must nevertheless be seen in a wider context. Did so many teachers report more than six symptoms because they were exhausted towards the end of a busy term? If so, they might give quite different replies at a different time of the year. Or did the results reflect something even more serious, namely a deep-rooted drop in morale, which might not only be affecting their attitude to their work, but also their health?

Similarly, the observation that teachers in open-plan classrooms report less stress than teachers in conventional classrooms raises tantalising questions. Is stress reduced because they support each other, and hence mitigate the effect of possible stress from children's behaviour? Or are disruptive pupils less visible in more flexible teaching spaces? Or may an open-plan design result in a genuine improvement in children's behaviour? More detailed study of a few schools may enable us to start answering questions like these.

All teachers experience stress at some stage in their career. Indeed, all teachers probably experience severe stress at some stage. However unpleasant the experience may be at the time, personal and professional growth is possible if the sources of stress can be tackled successfully. On the other hand, when stress is chronic, or when it occurs too frequently or in too severe a form, its effects are destructive of personal and professional growth. The research programme described here has provided evidence about the prevalence and sources of stress experienced by forty primary school principals and 296 class teachers in the Wellington Education Board. It has started to answer some of the outstanding questions. No apology is made, however, for suggesting that many aspects of the problem remain unexplored, and that many questions remain to be answered.

REFERENCES

Ainley, J. (1981) Personal Communication.

Battersby, D. (1980) Not what I'd expected. Education, 29, 5, 22-24.

Beehr, T.A. and Newman, J.E. (1978) Job stress, employee health and organizational effectiveness: a facet analysis, model, and literature review. Personnel Psychology, 31, 665-699.

Bentz, W.K, Hollister, W.G. and Edgerton, J.W. (1971) An assessment of the mental health of teachers: a comparative analysis. Psychology in the Schools, 8, 72-76.

Board of Education (1905) Handbook of Suggestions for Teachers. London: HMSO.

Borland, N.R. (1962) Discipline and strain. National Education, 44, 476, 165-170.

Borland, N.R. (1964) An Enquiry into Matters of Health and Conditions of Employment of Teachers in Primary Schools of New Zealand. Unpublished M.A. Thesis: University of Otago.

Callaghan, J. (1976) Press release: speech by the Prime Minister at a foundation stone laying ceremony at Ruskin College, Oxford.

Caplan, R.D., Cobb, S., French, J.R.P., Van Harrison, R. and Pinneau, S.R. (1975) Job Demands and Worker Health. Washington, D.C.: U.S. Department of Health, Education and Welfare.

Cherry, N. (1978) Stress, anxiety and work. Journal of Occupational Psychology, 51, 259-270.

Chinnery, P. (1979) Stress in schools. Manager or managed? National Education, 61, 640, 163-166.

Cichon, D.J. and Koff, R.H. (1980) Stress and teaching. National Association of Secondary School Principals Bulletin, 64, 434, 91-104.

Cicourel, A.V. and Kitsuse, J.I. (1968) The social organisation of the high school and deviant adolescent careers. In E. Rubington and M. Weinberg (eds.) Deviance: The Interactionist Perspective. New York: Macmillan.

Coates, T.J. and Thoresen, C.E. (1976) Teacher anxiety: a review with recommendations. Review of Educational Research, 46, 2, 159-184.

Cobb, S. (1976) Social support as a moderator of life stress.

Psychosomatic Medicine, 38, 5, 300-314.

Coleman, B.R. (1981) The prevalence and sources of self-reported teacher stress among primary school teachers in the Mangonui Branch of the New Zealand Educational Institute. Unpublished paper submitted to the NZEI.

Cooper, C.L. (1980) Work stress in white- and blue-collar jobs. Bulletin of the British Psychological Society, 33, 49-51.

Cooper, C.L. and Marshall, J. (1976) Occupational sources of stress: a review of the literature relating to coronary heart disease and mental ill health. Journal of Occupational Psychology, 49, 9, 11-28.

Cox, T. (1978) Stress. London: Macmillan.

Department of Education and Science (1976) A Language for Life (The Bullock Report). London: HMSO.

Doyle, B. (1980) Trainee and teacher withdrawal and the bond 1975-1979. Unpublished paper for Steering Committee of the Curriculum Group of Wellington Teachers College.

Dunham, J. (1976) Stress situations and responses. In: National Association of Schoolmasters/Union of Women Teachers (eds.) Stress in Schools. Hemel Hempstead: NAS/UWT.

Dunham, J. (1977) The effects of disruptive behaviour on teachers. Educational Review, 29, 3, 181-187.

Dunham, J. (1980) An exploratory comparative study of staff stress in English and German comprehensive schools. Educational Review, 32, 1, 11-20.

Edelwich, J. and Brodsky, A. (1980) Burn-out: Stages of Disillusionment in the Helping Professions. New York: Human Sciences Press.

Edwards, A.L. (1972) Experimental Design in Psychological Research (4th edition). New York: Holt, Rinehart and Winston.

Eysenck, H.J. and Eysenck, S.B.G. (1964) Manual of the Eysenck Personality Inventory. London: University of London Press.

Francis, G. (1979) The NZEI Counselling Service. Education, 28, 4, 9-12.

Fuller, F.F. (1969) Concerns of teachers: a developmental conceptualization. American Educational Research Journal, 6, 2, 207-266.

Galloway, D., Boswell, K. and Panckhurst, F. (1981) Stress in Teaching. National Education, 63, 204-206.

Galloway, D., Ball, C., Blomfield, D. and Seyd, R. (1982) Schools and Disruptive Pupils. London: Longman (in press).

Goffman, E. (1961) Asylums. New York: Anchor

Goldberg, D.P. (1972) The Detection of Psychiatric Illness by Questionnaire. London: Oxford University Press.

Gough, R.G. (1974) The Induction Year - a Sociological Focus. Unpublished M.Sc. (Econ.) thesis: University of London, Institute of Education.

Hargreaves, D. (1978) What teaching does to teachers. New Society, 43, 805, 540-542.

Hertzberg, F., Mausner, B. and Snyderman, B.B. (1959) The Motivation to Work. 2nd edition. New York: Wiley.

Hicks, F.P. (1933) The Mental Health of Teachers. New York: Cullman and Ghertner.

Hodges, L. (1976) Why teaching is a dying profession. Times Educational Supplement, 3206, 12 November, 7.

Holdaway, E.A. (1978) Facet and overall satisfaction of teachers. Educational Administration Quarterly, 14, 1, 30-47.

Keavney, G. and Sinclair, K.E. (1978) Teacher concerns and teacher anxiety: a neglected topic of classroom research. Review of Educational Research, 48, 2, 273-290.

King, H. (1970) Health in the medical and other learned professions. Journal of Chronic Diseases, 23, 257-281.

Kyriacou, C. (1980a) High anxiety. Times Educational Supplement, 3538, 6 June, 12.

Kyriacou, C. (1980b) Stress, health and schoolteachers: a comparison with other professions. Cambridge Journal of Education, 10, 3, 154-159.

Kyriacou, C. (1981) Social support and occupational stress among school teachers. Educational Studies, 7, 1, 55-60.

Kyriacou, C. and Sutcliffe, J. (1977a) The prevalence of stress among teachers in medium-sized mixed comprehensive schools. Research in Education, 18, 75-79.

Kyriacou, C. and Sutcliffe, J. (1977b) Teacher stress: a review. Educational Review, 29, 4, 299-306.

Kyriacou, C. and Sutcliffe, J. (1978a) A model of teacher stress. Educational Studies, 4, 1, 1-6.

Kyriacou, C. and Sutcliffe, J. (1978b) Teacher stress: prevalence, sources and symptoms. British Journal of Educational Psychology, 48, 2, 159-167.

Kyriacou, C. and Sutcliffe, J. (1979) Teacher stress and satisfaction. Educational Research, 21, 2, 89-96.

Landsmann, L. (1978) Is teaching hazardous to your health? Today's Education, 67, 2, 48-50.

Lawler, E.E. (1973) Motivation in Work Organisations. Monterey, California: Brooks/Cole.

Lazarus, R.S. (1974) Psychological stress and coping in adaptation and illness. International Journal of Psychiatry in Medicine, 5, 4. 321-333.

Lewes, R. (1979) A survey of the Opinions Related to Job Satisfaction and Promotion. Unpublished B.Ed. Investigation: Massey University.

McLaughlin, J.W. and Shea, J.T. (1960) California teachers' job dissatisfaction. California Journal of Educational Research, 11, 216-224.

Nash, R. (1980) Primary education in rural New Zealand: current issues and developments. *New Zealand Journal of Educational Studies*, 15, 1, 3-14.

National Education Association (1939) The teacher looks at teacher load. *Research Bulletin*, 17.

National Education Association (1951) Teaching load in 1950. Research Bulletin, 29, 1, 3-50.

National Education Association (1967) Teachers' problems. *Research Bulletin*, 45, 116-117.

Newman, G.R. and Wilkins, L.T. (1974) Sources of deviance in the schooling process. *International Review of Education*, 20, 306-321.

New Zealand Educational Institute (1969) Report on Mental Health of Teachers. *Report of Proceedings*, AGM, May.

Nisbet, J. (1980) Curriculum process: international perspectives. In P. Ramsay (ed.) *Curriculum Issues in New Zealand*. Wellington: NZEI.

Openshaw, R. (1980) The politics of 'Back to Basics'. *New Zealand Journal of Educational Studies*, 15, 2, 127-136.

Peck, L.A. (1933) A study of the adjustment difficulties of a group of women teachers. *Journal of Educational Psychology*, 27, 401-416.

Pincherle, G. (1972) Fitness for work. *Proceedings of the Royal Society of Medicine*, 65, 321-324.

Power, M.J., Benn, R.T. and Morris, J.M. (1972) Neighbourhood, school and juveniles before the courts. *British Journal of Criminology*, 12, 111-132.

Pratt, J.W. (1976) *Perceived Stress among Teachers: An examination of Some Individual and Environmental Factors and their Relationship to Reported Stress*. Unpublished M.A. Thesis: University of Sheffield.

Pratt, J. (1978) Perceived stress among teachers: the effects of age and background of children taught. Educational Review, 30, 1, 3-14.

Pratt, J. (1979) Psychological evidence of stress among teachers. In: C. Mackay and T. Cox (eds.) Response to Stress: Occupational Aspects. London: IPC Press.

Ramsay, P.D.K., Sneddon, D.J., Grenfell, J. and Ford, I. (1981) Tomorrow may be too late: Schools with Special Needs in Mangere and Otara. Hamilton: University of Waikato.

Randall, H.B. (1951) Health is for teachers too. National Education Association Journal, 40, 467-468.

Registrar-General (1978) Occupational Mortality (1970-1972). London: HMSO.

Reynolds, D. and Murgatroyd, S. (1977) The sociology of schooling and the absent pupil: the school as a factor in the generation of truancy. In: H.C.M. Carroll (ed.). Absenteeism in South Wales: Studies of Pupils, their Homes and their Secondary Schools. Swansea: University College, Faculty of Education.

Rudd, W.G.A. and Wiseman, S. (1962) Sources of dissatisfaction among a group of teachers. British Journal of Educational Psychology, 32, 275-291.

Rutter, M. (1977) Prospective studies to investigate behavioural change. In J.S. Strauss, H.M. Babigian and M. Roff (eds.) Methods of Longitudinal Research in Psychopathology. New York: Plenum.

Rutter, M, Maughan, B., Mortimore, P. and Ouston, J. (1979) Fifteen Thousand Hours: Secondary Schools and their Effects on Children. London: Open Books.

Simpson, J. (1962) Sickness absence in teachers. British Journal of Industrial Medicine, 19, 110-115.

Simpson, J. (1976) Stress, sickness absence and teachers. In: National Association of Schoolmasters/Union of Women Teachers (eds.). Stress in Schools. Hemel Hempstead: NAS/UWT.

Appendix 1a.

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STRESS IN TEACHING

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1 1	4 - 5

Background Information Questionnaire : Principals

For each question where a choice is offered, please circle the number which corresponds with your answer. For other questions please write in the appropriate answer or number in the space or box provided.

1. Which description below best characterises the kind of district from which your school draws its children?

   (a) In this district houses are closely packed together and many are in a poor state of repair. Multi-occupation is a common feature, and many families have low incomes. 1

   (b) This district consists of less expensive privately-owned houses and/or state houses and flats. Multi-occupation is unusual and families have average to below average incomes. 2

   (c) In this district houses are well-spaced and the majority are well-maintained. Multi-occupation is rare and most families have higher than average incomes. 3

   (d) Both well-to-do and less well off families live in this district. The houses are a mixture of those described in (b) and (c) above. 4

   (e) This is a rural district consisting of scattered houses and/or small settlements. Families and houses are mixed as in (d) above. 5

   If none of these descriptions fits the character of your school district would you please describe what it is like: 6 — 6

   ____

   ____

   ____

For office use only

Col. nos.

2. Approximately how many years ago was the school first opened?

Enter no. of years ☐ 7 - 9

3. How satisfactory are the following:
(Please circle one number only in each row)

	Very satis-factory	Adequate	Not satis-factory	Col. nos.
Physical condition of buildings (age, maintenance etc.)	1	2	3	10
Heating/ventilation of buildings	1	2	3	11
Care/maintenance of grounds	1	2	3	12
Care/cleaning of class areas, offices etc.	1	2	3	13
Playground provision: space	1	2	3	14
quality	1	2	3	15
Provision of equipment and teaching resources	1	2	3	16

4. Which best describes the design of the class areas in the school?

open plan/variable space	1	
conventional classrooms	2	
combined	3	17

5. How would you describe the level of the school's total financial resources, including money available from voluntary effort or donation?

higher than average	1	
about average	2	
below average	3	18

6. Does the school have its own

	Yes	No	
Library	1	2	19
Hall/Gymnasium	1	2	20
Swimming baths	1	2	21
Video equipment, including TV	1	2	22

		For office use only Col. nos.

7. What is the actual total number of children on the school roll at present, not including children in attached pre-school groups?

Enter number	☐	23 - 25

8. Which best describes the school roll?

rising	1	
stable	2	
declining	3	26

9. What is the balance of roll numbers between junior and senior classes?

fairly even	1	
weighted toward junior/1st year intermediate	2	
weighted toward senior/2nd year intermediate	3	27

10. What proportion of children at present on your roll, would you say are from homes with some difficulty (e.g. overcrowding, only one parent, marital difficulties, family ill-health, poor standards of child care, unemployment etc.)?

less than 12%	1	
13% - 25%	2	
26% - 50%	3	
51% - 75%	4	
more than 75%	5	
not known	6	28

11. Roughly what proportion of children on the roll are: (Please circle one number in each row)

	less than 12%	13%-25%	26%-50%	51%-75%	more than 75%	
European	1	2	3	4	5	29
Maori	1	2	3	4	5	30
Other Polynesian	1	2	3	4	5	31
Other ethnic groups, e.g. Greek, Asian etc. (please specify)	1	2	3	4	5	32

____

For office use only

12. How much support/advice, when requested, does the school receive from the following:
(Please circle one number only in each row)

	Not applicable or not requested	Little to no support	Some support	Substantial support	Col. nos.
Advisory Services:					
Maori & Pacific Islanders	1	2	3	4	33
Rural schools	1	2	3	4	34
Art and crafts	1	2	3	4	35
Music	1	2	3	4	36
Science	1	2	3	4	37
Reading	1	2	3	4	38
Mathematics	1	2	3	4	39
Physical Education	1	2	3	4	40
Junior class	1	2	3	4	41
Deaf children	1	2	3	4	42
Psychological Service	1	2	3	4	43
Speech Therapist	1	2	3	4	44
Child Health Clinic	1	2	3	4	45
Visiting Teacher Service	1	2	3	4	46
Inspectorate	1	2	3	4	47
Department of Social Welfare Social worker	1	2	3	4	48
Other social worker	1	2	3	4	49
Maori Welfare Officer	1	2	3	4	50
Community worker	1	2	3	4	51
Youth Aid	1	2	3	4	52
School Medical Officer	1	2	3	4	53
Public Health Nurse	1	2	3	4	54
Road Traffic Instructor	1	2	3	4	55
School Library Service	1	2	3	4	56
Museum Education Service	1	2	3	4	57
National Film Library	1	2	3	4	58
Parents as resource people	1	2	3	4	59
Other (please specify)	1	2	3	4	60

For office use only

Col. nos

13. How many teachers are employed at your school? (Please include specialist teachers and yourself if you are a teaching principal)

Full-time (exclude year one)		61 - 62
year one		63 - 64
part-time		65 - 66
total		67 - 68

14. How many teaching positions in the school are limited tenure?

	69 - 70

Card 2

1 - 3 (as for card 1)

1	2	4 - 5

15. How many ancillary staff and hours do you have?

	full-time		part-time		
	Number	total weekly hours	Number	total weekly hours	
Clerical assistants					6 - 11
Teacher Aides					12 - 17
Caretakers					18 - 23

Please use the space below if you wish to clarify information about your ancillary staffing e.g. hours from entitlement, hours from DSI special needs allocation.

For office use only
Col. nos

16. Does the school have an allowance for pool relievers?

	yes	1	
	no	2	24

If yes, what is your weekly allowance?

	no. of days	
	☐	25 - 26

17. On what basis are the children divided into classes or learning units? (Please circle one number only)

(a) Horizontal: children grouped by age so there are separate classes/units for different year groups	1	
(b) Composite: children grouped in units which combine two class levels under one teacher	2	
(c) Vertical: children grouped into classes/units representing a wider age range than in (b)	3	
(d) A combination of horizontal and composite groups	4	
(e) A combination of vertical and horizontal groups	5	
(f) A combination of composite and vertical groups	6	
(g) Other: (please describe)	7	27

____

____

____

18. To what extent are parents involved in the school? (Please circle one number only in each row)

	No parental involvement	Some parental involvement	Substantial parental involvement	
giving practical help, e.g. fund raising; mending equipment; helping on outings, in library etc.	1	2	3	28
attending social events where parents and staff meet	1	2	3	29
helping voluntarily in classrooms, e.g. reading stories, taking groups or activities.	1	2	3	30
attending talks, discussions specially arranged for groups of parents	1	2	3	31
as resource people for special curriculum topics	1	2	3	32

Answers to the following questions about yourself will help us to organise the information from principals in the schools in the study.

				For office use only Col. nos
19.	Sex	Male	1	
		Female	2	33
20.	Age	Under 25	1	
		25 - 29	2	
		30 - 34	3	
		35 - 39	4	
		40 - 44	5	
		45 - 49	6	
		50 - 54	7	
		Over 54	8	34
21.	Marital Status	single	1	
		living together/married	2	
		separated/divorced/widowed	3	35
22.	Number of children in family	0 1 2 3 4 5+		36

23. Length of certificated service

	years	months	
total service	☐	☐	37 - 40
service as a principal	☐	☐	41 - 44
service at this school	☐	☐	45 - 48

24. Which aspects of your previous experience have provided the best preparation for your present position?

For office use only

Col. nos

25. Which, if any, of the following qualifications have you completed? (Please circle as many numbers as appropriate)

Diploma in Teaching	1	49
Advanced Diploma in Teaching	2	50
Diploma in Education/Educational Studies	3	51
Other Diploma, e.g. Fine Arts, Phys.Ed., TESL, Music, Home Science (please specify)	4	52
Bachelors Degree	5	53
Masters and/or Honours Degree	6	54
Music/Speech qualification e.g. FTCL, LRSM, LTCL	7	55
Other (please specify)	8	56

26. Which, if any, of the following units have you completed towards a qualification? (Please circle as many numbers as appropriate)

AST units	1	57
Classes for Teachers, e.g. Teachers College continuing education units	2	58
University units/credits	3	59

27. Are you currently undertaking any formal study for professional and/or academic qualifications?

yes	1	
no	2	60

28. Have you undertaken any courses/training or attended any conferences etc. in educational administration and management?

yes	1	
no	2	61

If yes, please give details (e.g. nature, length, organizer, value)

For office use only

Col. nos

29. Are you a teaching principal?

yes	1	
no	2	62

30. If you are not a teaching principal, about how many hours on the average each week do you spend in classrooms?

		no. of hours	
(a) filling in for absent teachers, or to release teachers	Enter to nearest hour	☐☐	63 - 64
(b) visiting classrooms, participating in class activities etc.	Enter to nearest hour	☐☐	65 - 66

31. If there are further details about your school or your work as a principal which are relevant to a study of stress, but have not been brought out by our questions, please use the space below. You may also like to note topics, e.g., sources of stress, you wish to discuss during the interview.

THANK YOU VERY MUCH FOR YOUR HELP

VICTORIA UNIVERSITY OF WELLINGTON

Appendix 1b.

Department of Education

Stress in Teaching Unit

Semi-structured Interview with Primary School Principals.

TOPIC	INTRODUCTORY QUESTIONS
School district and intake	1. Are there any special features in the school district? e.g. military or transit workers settlement, factory/industrial area, port etc.
	2. Does the school aim to serve any special local needs? e.g. as referred to in the school scheme.
Pupil mobility	3. How much pupil mobility/turnover is there?
	4. What is the school's staffing? Ask for list of staff/staffing schedule as requested in background questionnaire. Clarify positions and number of senior teachers. Note teachers with class responsibility
Teaching organisation	5. How is the school organised for teaching? Enquire about syndicates, team teaching versus single class teaching, etc.
Principal's stress	6. What was a recent event that you found stressful as a principal?
	7. Have there been any other recent occurrences that you found stressful?
	8. What do you see as the sources of stress for a principal from outside the school?
	9. What in your view are the sources of stress for a principal from within the school itself?
	10. Are there any other sources of stress for a principal?
	11. What do you find are the most effective ways of coping with the stress you encounter as a principal?
Teachers' stress	12. What would you say are the main sources of stress for teachers in this school?
	13. Are there any other significant sources of stress for them?
	14. What are some of the ways in which stress seems to affect teachers here? How do they respond to it?
	15. Are there any ways in which you feel you can help teachers cope with stress?

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Appendix 1c.

For office use only Col. nos

Victoria University of Wellington/NZ Educational Institute

STRESS IN TEACHING

			1 - 3
2	1		4 - 5

Stress Check List for Principals

This check list is intended to provide an indication of the degree to which you have found various aspects of work stressful at your present school over the first two terms of 1981.
Would you please complete the check list by the end of the survey week, that is, by Friday 7 August, and return it sealed, in the addressed envelope provided, as soon as possible. The envelope has been franked to cover postage.

For each item, please circle the one number which corresponds most closely with your degree of stress in the row opposite.

As a principal, how great a source of stress have the following aspects been for you over the last two terms?
(If you have been at your present school for less than two terms, please refer to the appropriate period at your present school only)

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	
School funding	1	2	3	4	5	6
Staffing restrictions (teachers)	1	2	3	4	5	7
Staffing turnover/ number of new staff (teachers)	1	2	3	4	5	8
Appointment procedures (teachers)	1	2	3	4	5	9
Clerical assistance	1	2	3	4	5	10
Other ancillary staffing policy/ provision	1	2	3	4	5	11
Relieving staff policy/provision	1	2	3	4	5	12
In-service education policy/provision	1	2	3	4	5	13
Size of school	1	2	3	4	5	14
Implementing Dept. of Education curriculum policy	1	2	3	4	5	15

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	For office use only Col. nos
Amount/nature of paper work	1	2	3	4	5	16
Inspectors' visits	1	2	3	4	5	17
Lack of inspectors' visits/support	1	2	3	4	5	18
Education Board contact/administration	1	2	3	4	5	19
Policy on leave	1	2	3	4	5	20
School Committee meetings/liaison	1	2	3	4	5	21
PTA/Home and School meetings/liaison	1	2	3	4	5	22
Pressure groups	1	2	3	4	5	23
Situations involving parents	1	2	3	4	5	24
Community use of school buildings or resources	1	2	3	4	5	25
Involvement in fund raising	1	2	3	4	5	26
Position of principal in community	1	2	3	4	5	27
Ethnic groups/ multi-cultural nature of school	1	2	3	4	5	28
Parent attitudes/ expectations	1	2	3	4	5	29
School bus management	1	2	3	4	5	30
Conversion/remodelling of school buildings	1	2	3	4	5	31
Cleaning of the school	1	2	3	4	5	32
Maintenance of school plant	1	2	3	4	5	33
Purchase/maintenance of teaching equipment e.g. audio-visual	1	2	3	4	5	34
Situations involving pupils	1	2	3	4	5	35
Arbitration in staff disagreements	1	2	3	4	5	36
Arbitration in teacher-pupil friction	1	2	3	4	5	37

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	For office use only Col. nos
Staff attitudes/ values/behaviour	1	2	3	4	5	38
Staff absenteeism/ sickness absence	1	2	3	4	5	39
Supervision of year one teachers	1	2	3	4	5	40
Supervision of teacher trainees	1	2	3	4	5	41
Guidance/supervision of other teachers	1	2	3	4	5	42
Staff meetings	1	2	3	4	5	43
Grading/assessment procedures	1	2	3	4	5	44
Competence of teacher(s)	1	2	3	4	5	45
Structure of school terms	1	2	3	4	5	46
Constraints on developing/implementing school policy	1	2	3	4	5	47
Tensions among teachers	1	2	3	4	5	48
Staff participation in decisions	1	2	3	4	5	49
Counselling staff colleagues on personal matters	1	2	3	4	5	50
Vandalism of school	1	2	3	4	5	51
Complaints against teachers	1	2	3	4	5	52
Conflicts of interests/ loyalties e.g. teacher/ parents, teachers/pupils	1	2	3	4	5	53
Maintaining/raising educational standards	1	2	3	4	5	54
Disagreements over teaching methods	1	2	3	4	5	55
Tensions between different staffing groups	1	2	3	4	5	56
Evaluating pupil progress	1	2	3	4	5	57
Maintaining pupil records	1	2	3	4	5	58

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	For office use only Col. nos
Taking classes for absent teachers	1	2	3	4	5	59
Management of school in wet weather	1	2	3	4	5	60
Own general workload	1	2	3	4	5	61
The fragmented/ interrupted nature of the day	1	2	3	4	5	62
Demands on after school time	1	2	3	4	5	63
Difficulty in obtaining promotion or move	1	2	3	4	5	64
Punishing pupils	1	2	3	4	5	65
Dealing with injured/ill children	1	2	3	4	5	66
Children's health/ parental care	1	2	3	4	5	67
Supervision of children on trips	1	2	3	4	5	68
Other (please itemise and rate as before)						
______________________	1	2	3	4	5	
______________________	1	2	3	4	5	
______________________	1	2	3	4	5	
______________________	1	2	3	4	5	
______________________	1	2	3	4	5	

In general, how stressful do you find being a principal?

not at all stressful	mildly stressful	moderately stressful	very stressful	extremely stressful	
1	2	3	4	5	69

Would you PLEASE CHECK to see that you have rated each item.

THANK YOU VERY MUCH FOR YOUR HELP

Appendix 2a

use only
Col. nos

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Victoria University of Wellington/NZ Educational Institute

STRESS IN TEACHING

Card 1

1 -

4	1

4 -

Background Information Questionnaire : Teachers

Answers to the following questions about yourself will enable comparisons to be made among groups. The purpose of the index number on the front page is to match the information from the various questionnaires you complete. Your responses will be seen only by the research staff and will be treated as strictly confidential.

For each question where a choice is offered, please circle the number which corresponds with your answer. For other questions please write in the appropriate answer or number in the space or box provided.

1. Sex	male	1	
	female	2	6
2. Age	Under 25	1	
	25 - 29	2	
	30 - 34	3	
	35 - 39	4	
	40 - 44	5	
	45 - 49	6	
	50 - 54	7	
	over 54	8	7
3. Marital status			
	single	1	
	living together/married	2	
	separated/divorced/widowed	3	8
4. Number of children in family	0 1 2 3 4 5+		9
5. Which category of teacher are you?			
	year 1 teacher	1	
	year 2 teacher	2	
	year 3 teacher	3	
	year 4 teacher	4	
	other, i.e. beyond 3rd year of certificated service	5	10

237

For office use only
Col. nos

If you are a year one teacher, please leave out question 6 and go straight to question 7.

6. Length of certificated service

	years	months	
total			11 - 14
at this school			15 - 18

7. Which, if any, of the following qualifications have you completed?
(Please circle as many numbers as appropriate)

Teachers College Diploma	01	19 - 20
Trained Teachers Certificate	02	21 - 22
Diploma in Teaching	03	23 - 24
Advanced Diploma in Teaching	04	25 - 26
Diploma in Education/Educational Studies	05	27 - 28
Other Diploma, e.g. Fine Arts, Phys. Ed., TESL, Music, Home Science (please specify)	06	29 - 30
	(For office use)	31 - 32
Bachelors Degree	07	33 - 34
Masters or Honours Degree	08	35 - 36
Music/speech qualification, e.g. FTCL, LRSM, LTCL	09	37 - 38
Other (please specify)	10	39 - 40
	(For office use)	41 - 42

8. Which, if any, of the following units have you completed towards a qualification?
(Please circle as many numbers as appropriate)

A S T units	1	43
Classes for Teachers, e.g. Teachers College continuing education units	2	44
University units/credits	3	45

9. Are you currently undertaking any formal study for professional and/or academic qualifications?

yes	1	
no	2	46

2/2

		For office use only Col. nos

10. Present position held
(Please circle one number only)

Deputy Principal	1	
2nd Deputy	2	
Senior Teacher Junior Classes	3	
Other Senior Teacher	4	
Teacher	5	
Special Class Teacher	6	
Assessment Class Teacher	7	
Regulation Teacher	8	
Other (please specify)	9	47
(For office use)	☐	48

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11. What is the nature of your present appointment?
(Please circle one number only)

permanent	1	
limited tenure	2	
year one	3	
long-term relieving	4	49

12. How did you obtain your appointment?
(Please circle one number only)

by application	1	
by placement	2	
by secondment	3	50

13. How many children are there in your class or home base unit?

boys	☐	51 - 52
girls	☐	53 - 54
total	☐	55 - 56

14. What is their present age range?

	years	months	
youngest	☐	☐	57 - 60
oldest	☐	☐	61 - 64

		For office use only Col. nos
15. Which best describes the design of your main teaching area(s)? (Please circle one number only)		
purpose built open plan / variable space	1	
converted open plan / variable space	2	
conventional classroom	3	
other (please describe)	4	65
(For office use) ☐		66

---

16. Which best describes the organization for your teaching? (Please circle one number only)		
team teaching	1	
single class teaching	2	
team teaching for some activities, single class teaching for some activities	3	
other (please describe)	4	67
(For office use) ☐		68

	Card 2
☐☐☐	1 - 3 (as for card 1)
4 2	4 - 5

17. Do you have any additional staff to help or release you on a regular basis, i.e. at least once a week for part of the school day. (Please circle one number in each row)

	Yes	No	
paid ancillary staff, e.g. teacher aide	1	2	6
voluntary helper, e.g. parent	1	2	7
specialist teacher e.g. manual	1	2	8
another teacher/senior teacher/part-time teacher	1	2	9

use only
Col. nos

18. How great a source of stress is the teaching of these subjects for you?

	not taught by me	no stress	mild stress	quite a lot of stress	extreme stress	
reading	1	2	3	4	5	10
mathematics	1	2	3	4	5	11
social studies	1	2	3	4	5	12
language/English	1	2	3	4	5	13
science	1	2	3	4	5	14
physical education	1	2	3	4	5	15
music	1	2	3	4	5	16
art	1	2	3	4	5	17
health education	1	2	3	4	5	18
other (please specify)	1	2	3	4	5	19

(For office use) ☐ 20

19. How great a source of stress for you are the following events?

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	
PTA meetings	1	2	3	4	5	21
Meet the Teacher evenings	1	2	3	4	5	22
Parent-Teacher interviews for discussion of pupil's progress/ report	1	2	3	4	5	23
Inspectors' visits	1	2	3	4	5	24
Class trips	1	2	3	4	5	25
Staff meetings	1	2	3	4	5	26
Syndicate meetings	1	2	3	4	5	27
Other (please specify)	1	2	3	4	5	28

(For office use) ☐ 29

For office use only

Col. nos

20. How great a source of stress have the following been for you this year?
(Please circle one number in each row)

	not applicable	no stress	mild stress	quite a lot of stress	extreme stress	
illness of your own children or other members of your family	1	2	3	4	5	30
bereavement	1	2	3	4	5	31
marital relationships	1	2	3	4	5	32
financial commitments/ worries	1	2	3	4	5	33
separation from family/ friends	1	2	3	4	5	34
encroachment of job demands on personal time	1	2	3	4	5	35
obtaining your next teaching position	1	2	3	4	5	36
other (please specify)	1	2	3	4	5	37

(For office use) ☐ 38

You may find question 21 below hard to answer because of variations in the amount of stress you feel from day to day in teaching, but please try to select the one rating which you think most nearly applies to you.

21. In general, how stressful do you find being a teacher?

not at all stressful	mildly stressful	moderately stressful	very stressful	extremely stressful	
1	2	3	4	5	39

		For office use only Col. nos
22. Which best describes the state of your health?		
Exceptionally good health; constant feeling of vigour; plenty of energy	1	
General good health; enough vigour to stand extra strains; occasional illnesses	2	
Energy sufficient for ordinary work; little resistance to colds or periods of extra strain	3	
Vitality low; inclined to worry over work; daily routine seems heavy	4	
Frequent or chronic ill-health; work accomplished only by effort	5	40
23. How many days since the start of the first term this year were you absent because of your own illness?	total number of days absent ☐	41 - 42
How many of these absences were for one day only?	number of one day absences ☐	43 - 44
24. How long do you intend to stay in teaching? (Please circle one number only)		
I intend to make teaching a life-time career with as few breaks as possible.	1	
I intend to take some time out from teaching and may return.	2	
I intend to stay in teaching for the next few years but may not continue permanently.	3	
I intend to leave teaching as soon as possible and will probably not return.	4	45

If you intend to leave teaching, temporarily or permanently, would you please state what are likely to be the main reasons:

____

____

____

☐☐☐ (For office use) 46 - 51

For office use only

Col. nos

25. If there is any other background information not covered in this questionnaire but which you think is relevant to a study of stress in teaching, please give details below:

(For office use)

52 - 57

WOULD YOU PLEASE CHECK to see that you have answered each question.

THANK YOU VERY MUCH FOR YOUR HELP.

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Appendix 2b.

For office use only
Col. nos

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Victoria University of Wellington/NZ Educational Institute

STRESS IN TEACHING

Card 1

☐	☐	☐	1 - 3
6	1		4 - 5

Stress Inventory for Teachers

How to complete the inventory: please read carefully

The events listed in the inventory below, were chosen because some teachers say they feel stress when they occur, or immediately afterwards. We are interested to find out which of these events occurred during your school day and how much stress, if any, you felt as a result.

Three copies of the inventory are enclosed. They are to enable you to complete a separate inventory for each of the three days in the selected survey period.

BEFORE YOU START

Which day is this inventory for? (Please circle the appropriate number below)

Day one	:	Monday	3 August	1	
Day two	:	Wednesday	5 August	2	
Day three	:	Friday	7 August	3	6

PLEASE COMPLETE ON THE DAYS AND DATES SPECIFIED IF AT ALL POSSIBLE, regardless of how unusual the day is. This is very important.

BUT IF YOU ARE ABSENT, for any of the specified days would you please complete the inventory on an alternative Monday, Wednesday or Friday in the following week. Please give below the substitute day and date, and circle the appropriate number, for this inventory:

	day of week	date		
Day one :	______	______	1	
Day two :	______	______	2	
Day three :	______	______	3	7

(For office use) ☐ 8

OVER, PLEASE

For office use only

Col. nos

Would you please consider each event in the inventory and make an overall judgement about it according to the following scale:

The event did not occur
The event occurred but was not at all stressful
The event was slightly stressful
The event was moderately stressful
The event was very stressful
The event was exceptionally stressful

In rating the amount of stress for each event you should consider the intensity and duration of your feelings and, if appropriate, how frequently the event occurred. For example, you might decide to give a rating of 'very stressful' to the item 'The weather made the children restless' because this stress was minor but lasted throughout the day. You might also assess the item 'A child was rude or hostile' as 'very stressful' because this brief open confrontation left you feeling upset for a long time.

Spaces have been provided on each page for any clarifying comments you may like to make, and at the end for additional items. Please do not change the items listed.

In order to remember whether an event happened, it is helpful to divide the school day into three sessions and to think about each session in turn: from when you arrived until the start of the morning play break, from playtime until the end of the lunch interval, and then through the afternoon session until you left.

NOW think through your teaching day before starting to assess the events below. Remember we are only interested in your reaction and your judgement. Please do not refer to others in assessing an event.

For office use only

Stress Inventory

Please circle the number which corresponds with your rating

		did not occur	not at all stressful	slightly stressful	moderately stressful	very stressful	exceptionally stressful	Col. nos
1.	My teaching equipment was inadequate/unsatisfactory.	1	2	3	4	5	6	9
2.	My planning was inadequate/ unsatisfactory.	1	2	3	4	5	6	10
3.	There was at least one problem child in my class.	1	2	3	4	5	6	11
4.	I found a subject (e.g. Music, P.E. etc.) difficult because I am not very good at teaching it.	1	2	3	4	5	6	12
5.	Some children did not do as they were told straight away.	1	2	3	4	5	6	13
6.	I was anxious for the safety of the children.	1	2	3	4	5	6	14
7.	The beginning of the lesson/ activity was difficult.	1	2	3	4	5	6	15
8.	I found another member of staff difficult to work with.	1	2	3	4	5	6	16
9.	There was insufficient time to do what I had planned.	1	2	3	4	5	6	17
10.	I did the wrong thing and this upset me.	1	2	3	4	5	6	18
11.	I was on playground duty.	1	2	3	4	5	6	19
12.	A child did not do as I told him/her to.	1	2	3	4	5	6	20
13.	I found it difficult to reach the standard I wanted during this lesson/activity.	1	2	3	4	5	6	21

If you wish, make comments here to clarify any of the events or your responses:

OVER, PLEASE

		did not occur	not at all stressful	slightly stressful	moderately stressful	very stressful	exceptionally stressful	For office use only Col. nos
14.	A child was physically agressive towards me.	1	2	3	4	5	6	22
15.	A child deliberately defied me.	1	2	3	4	5	6	23
16.	I gave too much time to backward children and the rest of the class suffered.	1	2	3	4	5	6	24
17.	I had to supervise my class during playtime.	1	2	3	4	5	6	25
18.	I was not able to do enough with individual pupils.	1	2	3	4	5	6	26
19.	The children did not listen to what was said.	1	2	3	4	5	6	27
20.	A member of staff annoyed me.	1	2	3	4	5	6	28
21.	I never knew what was going to happen next during this lesson/activity.	1	2	3	4	5	6	29
22.	Children were unable to get on with their work during this lesson/activity.	1	2	3	4	5	6	30
23.	I was not consulted on a decision which affected me.	1	2	3	4	5	6	31
24.	I was interrupted by other people/events.	1	2	3	4	5	6	32
25.	I did not teach this lesson/activity very well.	1	2	3	4	5	6	33
26.	I found myself very concerned with the plight of one child/group.	1	2	3	4	5	6	34

If you wish, make comments here to clarify any of the events or your responses:

OVER, PLEASE

		did not occur	not at all stressful	slightly stressful	moderately stressful	very stressful	exceptionally stressful	For office use only Col. nos
27.	I felt another teacher was observing me critically.	1	2	3	4	5	6	35
28.	Too many things happened at once and I found it hard to cope.	1	2	3	4	5	6	36
29.	Some children showed a lack of interest in this lesson/activity.	1	2	3	4	5	6	37
30.	It was difficult to bring this lesson/activity to a satisfactory conclusion.	1	2	3	4	5	6	38
31.	The weather made the children restless.	1	2	3	4	5	6	39
32.	A child was rude or hostile.	1	2	3	4	5	6	40
33.	I had to collect and check money.	1	2	3	4	5	6	41
34.	Children made a lot of noise during this lesson/activity.	1	2	3	4	5	6	42
35.	A child was late for my class.	1	2	3	4	5	6	43
36.	Some children were hostile and aggressive to each other.	1	2	3	4	5	6	44
37.	I disagreed with another member of staff.	1	2	3	4	5	6	45
38.	I did not know how to handle this situation.	1	2	3	4	5	6	46
39.	There was a lot of mess during this lesson/activity.	1	2	3	4	5	6	47
40.	The class was difficult to manage.	1	2	3	4	5	6	48

If you wish, make comments here to clarify any of the events or your responses:

OVER, PLEASE

		did not occur	not at all stressful	slightly stressful	moderately stressful	very stressful	exceptionally stressful	For office use only Col. nos
41.	Children had difficulties in learning/understanding.	1	2	3	4	5	6	49
42.	I was involved with an extra-curricular activity.	1	2	3	4	5	6	50
43.	There was tension among staff.	1	2	3	4	5	6	51
44.	School policy required me to do something I disagreed with.	1	2	3	4	5	6	52
45.	I discussed a child with a parent.	1	2	3	4	5	6	53
46.	I had extra clerical/ organizational demands.	1	2	3	4	5	6	54

Additional Items

Would you please add any event which occurred but is not already included and rate each one as before.

54.		1	2	3	4	5	6	55
55.		1	2	3	4	5	6	56
56.		1	2	3	4	5	6	57
57.		1	2	3	4	5	6	58
58.		1	2	3	4	5	6	59

If you wish, make comments here to clarify any of the events or your responses:

The Day as a Whole

	not at all stressful	slightly stressful	moderately stressful	very stressful	exceptionally stressful	For office use only Col. nos
59. I found today as a whole was... (circle appropriate rating)	2	3	4	5	6	60
60. For me this day of the week is usually... (circle appropriate rating)	2	3	4	5	6	61

61. The state of my health today was...
(circle appropriate rating)

better than usual	same as usual	worse than usual	much worse than usual	
1	2	3	4	62

62. Today for me was...	fairly typical	1	63
	not typical	2	

If not typical, please say why (e.g. class outing, special activity etc.) ☐ 64 - 65

____

WHEN YOU FINISH

Please check that you have rated each item and shown which day the inventory corresponds with.
THANK YOU VERY MUCH FOR YOUR HELP

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Appendix 2c.

For office use only
Col. Nos

Victoria University of Wellington/NZ Educational Institute

STRESS IN TEACHING

			- 3
3	1		- 5

Satisfaction with Teaching Questionnaire

This questionnaire is intended to provide an indication of the degree to which you are satisfied with teaching at present.

For each item, please circle the one number which corresponds most closely with your degree of satisfaction in the row opposite

How satisfied are you with the following aspects of teaching?	not relevant	very dissatisfied	fairly dissatisfied	fairly satisfied	very satisfied	
The status of teachers in society	1	2	3	4	5	6
Your relationships with pupils	1	2	3	4	5	7
The availability of library and audio-visual resources	1	2	3	4	5	8
Your freedom to select subject matter for your class(es)	1	2	3	4	5	9
The expectations senior staff/the principal hold for you as a teacher	1	2	3	4	5	10
The number of hours you teach each week	1	2	3	4	5	11
The salary you receive	1	2	3	4	5	12
The attitudes of society towards education	1	2	3	4	5	13
The attitudes of pupils towards learning	1	2	3	4	5	14
The availability of replacement staff in the event of absences	1	2	3	4	5	15
Your freedom to select teaching methods	1	2	3	4	5	16

2

	not relevant	very dissatisfied	fairly dissatisfied	fairly satisfied	very satisfied	For office use only Col. no.
Your relationship with senior staff in the school	1	2	3	4	5	17
The number of hours of non-teaching duties each week	1	2	3	4	5	18
Your eventual retirement benefits	1	2	3	4	5	19
The attitudes of parents towards education	1	2	3	4	5	20
The general behaviour of pupils in the school	1	2	3	4	5	21
The availability of ancillary staff to assist you	1	2	3	4	5	22
Your freedom to select teaching materials (within available funds)	1	2	3	4	5	23
Your relationships with other teachers	1	2	3	4	5	24
The preparation time available during the school day	1	2	3	4	5	25
Provisions and opportunities for further formal study	1	2	3	4	5	26
Recognition by others of your work	1	2	3	4	5	27
The level of pupil achievement in your class(es)	1	2	3	4	5	28
The physical conditions of your classroom(s)	1	2	3	4	5	29
Your allocation to teaching a particular class/unit	1	2	3	4	5	30
The provision of useful advice to assist you with problems you encounter in teaching	1	2	3	4	5	31
The timetabling of the programme/activities	1	2	3	4	5	32
The methods used to grade teachers for promotion	1	2	3	4	5	33
The stimulation in your work	1	2	3	4	5	34

	not relevant	very dissatisfied	fairly dissatisfied	fairly satisfied	very satisfied	For office use only Col. nos
The ability level of pupils in your class(es)	1	2	3	4	5	35
The opportunities for useful in-service education	1	2	3	4	5	36
Your responsibility for a particular curriculum area	1	2	3	4	5	37
Your involvement in decisions about school policy	1	2	3	4	5	38
The size of the class(es) you teach	1	2	3	4	5	39
The factors used to determine salaries	1	2	3	4	5	40
The prospect of teaching as a life-time career	1	2	3	4	5	41
The general behaviour of pupils in your class(es)	1	2	3	4	5	42
The availability of facilities for your recreation activities	1	2	3	4	5	43
Your freedom to determine methods of assessment of pupils	1	2	3	4	5	44
The distribution of resources within your school	1	2	3	4	5	45
The amount of preparation and correction required of you during and out of school time	1	2	3	4	5	46
Your entitlements to leave of absence	1	2	3	4	5	47
What is your overall level of satisfaction with your job?		2	3	4	5	48
What factors contribute most to your overall satisfaction with teaching as an occupation?		(for office use) ☐ ☐ ☐ ☐ ☐ ☐				49 - 54

OVER, PLEASE

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use only

Col. nos

What factors contribute most to your overall dissatisfaction?

(For office use)

☐ ☐ ☐ ☐ ☐ ☐

55 - 60

WOULD YOU PLEASE CHECK to see that you have rated each item.

THANK YOU VERY MUCH FOR YOUR HELP

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Appendix 2d.

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Col. nos

Victoria University of Wellington/NZ Educational Institute

STRESS IN TEACHING

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☐	☐	☐	1 - 3
5	1		4 - 5

General Health Questionnaire

We should like to know how your health has been in general over the past few weeks.

Please answer ALL the questions on the following pages by circling the number of the answer which you think most nearly applies to you.

Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions.

HAVE YOU RECENTLY:

been feeling perfectly well and in good health?	Better than usual 1	Same as usual 2	Worse than usual 3	Much worse than usual 4	6
been feeling in need of a good tonic?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	7
been feeling run-down and out of sorts?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	8
felt that you are ill?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	9
been able to concentrate on whatever you're doing?	Better than usual 1	Same as usual 2	Less than usual 3	Much less than usual 4	10
found yourself waking early and unable to get back to sleep?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	11

HAVE YOU RECENTLY:					For office use only Col. nos
been getting up feeling your sleep hasn't refreshed you?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	12
lost much sleep over worry?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	13
been feeling mentally alert and wide awake?	Better than usual 1	Same as usual 2	Less alert than usual 3	Much less alert 4	14
been feeling full of energy?	Better than usual 1	Same as usual 2	Less energy than usual 3	Much less energetic 4	15
had difficulty in getting off to sleep?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	16
been having restless, disturbed nights?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	17
been managing to keep yourself busy and occupied?	More so than usual 1	Same as usual 2	Rather less than usual 3	Much less than usual 4	18
tended to lose interest in your ordinary activities?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	19
felt on the whole you were doing things well?	Better than usual 1	About the same 2	Less well than usual 3	Much less well 4	20
been satisfied with the way you've carried out your task?	more satisfied 1	About same as usual 2	Less satisfied than usual 3	Much less satisfied 4	21

HAVE YOU RECENTLY:

					For office use only Col. nos
felt that you are playing a useful part in things?	More so than usual 1	Same as usual 2	Less useful than usual 3	Much less useful 4	22
felt capable of making decisions about things?	More so than usual 1	Same as usual 2	Less so than usual 3	Much less capable 4	23
felt you're just not able to make a start on anything?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	24
felt yourself dreading everything that you have to do?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	25
felt constantly under strain?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	26
felt you couldn't overcome your difficulties?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	27
been finding life a struggle all the time?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	28
been able to enjoy your normal day-to-day activities?	More so than usual 1	Same as usual 2	Less so than usual 3	Much less than usual 4	29
been taking things hard?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	30
been getting scared or panicky for no good reason?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	31

OVER, PLEASE

HAVE YOU RECENTLY:					For office use only Col. nos
been able to face up to your problems?	More so than usual 1	Same as usual 2	Less able than usual 3	Much less able 4	32
found everything getting on top of you?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	33
been feeling unhappy and depressed?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	34
been losing confidence in yourself?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	35
been thinking of yourself as a worthless person?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	36
felt that life is entirely hopeless?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	37
been feeling reasonably happy, all things considered?	More so than usual 1	About same as usual 2	Less so than usual 3	Much less than usual 4	38
been feeling nervous and strung-up all the time?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	39
felt that life isn't worth living?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	40
found at times you couldn't do anything because your nerves were too bad?	Not at all 1	No more than usual 2	Rather more than usual 3	Much more than usual 4	41

WOULD YOU PLEASE CHECK to see that you have answered each question.

THANK YOU VERY MUCH FOR YOUR HELP.

Appendix 3a Mean Ratings, in Rank Order, of Items on the Stress Checklist for Principals, Correlation with Overall Stress, and Loading on First (Unrotated) Factor (N = 40)

Rank	Item	Mean Item Rating	Correlation with over-all stress	Loading on first (Unrotated) Factor
1	Management of School in wet weather	3.300	.566	.589
2	The fragmented/interrupted nature of the day	3.125	.526	.436
3	Own general workload	3.100	.433	.177
4	Maintaining/raising educational standards	3.050	.496	.622
5	Competence of teachers	3.025	.200	.599
6	Purchase/maintenance of teaching equipment	2.975	.308	.800
7	Maintenance of school plant	2.950	.198	.637
8	Amount/nature of paper work	2.923	.428	.228
9	Staff attitudes/values/behaviour	2.897	.186	.643
= 10	Parent attitudes/expectations	2.875	.490	.527
= 10	In-service education policy/provision	2.875	.230	.530
= 10	Demands on after school time	2.875	.386	.222
13	Guidance/supervision of other teachers	2.850	.254	.590
14	Education Board contact/administration	2.825	.163	.045
15	Staff absenteeism/sickness absence	2.800	.204	.627
= 16	School funding	2.775	.241	.315
= 16	Relieving staff policy/provision	2.775	.178	.563
18	Situations involving pupils	2.750	.195	.385
= 19	Staffing restrictions (teachers)	2.725	.182	.422
= 19	Other ancillary staffing policy/provision	2.720	.274	.545
21	Implementing Dept. of Education curriculum policy	2.700	.256	.276
= 22	Situations involving parents	2.675	.424	.499

Rank	Item	Mean Item Rating	Correlation with over-all stress	Loading on first (Unrotated) Factor
= 22	Maintaining pupil records	2.675	.424	.425
24	Tensions among teachers	2.650	.389	.625
= 25	Involvement in fund raising	2.625	.241	.570
= 25	Arbitration in teacher-pupil friction	2.625	.034	.368
= 25	Children's health/parental care	2.625	.207	.518
= 28	Constraints on developing/ implementing school policy	2.600	.341	.454
= 28	Evaluating pupil progress	2.600	.492	.530
30	Vandalism of school	2.575	.191	.471
= 31	Cleaning of the school	2.525	.174	.339
= 31	Punishing pupils	2.525	.233	.254
33	School committee meetings/liaison	2.500	.398	.596
= 34	Conversion/remodelling of school buildings	2.487	.307	.346
= 34	Dealing with injured/ill children	2.487	.258	.426
= 36	PTA/Home and School meetings/ liaison	2.475	.275	.536
= 36	Structure of school terms	2.475	.361	.090
= 38	Staff meetings	2.450	.336	.659
= 38	Conflicts of interests/loyalties e.g. teacher/parents,teacher/ pupils	2.450	.396	.594
= 40	Position of principal in community	2.425	.383	.049
= 40	Arbitration in staff disagreements	2.425	.255	.637
= 40	Supervision of children on trips	2.425	.395	.487
= 43	Staffing turnover/number of new staff (teachers)	2.400	.230	.424
= 43	Clerical assistance	2.400	.108	.108
= 43	Inspectors' visits	2.400	.102	.084
46	Size of school	2.375	.474	.360
= 47	Appointment procedures (Teachers)	2.325	.304	.299
= 47	Staff participation in decisions	2.325	.217	.435
= 47	Counselling staff colleagues on personal matters	2.325	.318	.714

Rank	Item	Mean Item Rating	Correlation with over-all stress	Loading on first (Unrotated) Factor
50	Taking clases for absent teachers	2.300	.202	.407
= 51	Grading/assessment procedures	2.275	.211	.239
= 51	Disagreements over teaching methods	2.275	.090	.643
= 53	Policy on leave	2.225	.163	.421
= 53	Community use of school buildings or resources	2.225	.112	.212
55	Tensions between different staffing groups	2.150	.078	.610
56	Pressure groups	2.125	.104	.487
57	Complaints against teachers	2.075	-.038	.200
58	Supervision of teacher trainees	2.026	.079	.378
= 59	Lack of inspectors' visits/support	2.000	.159	.070
= 59	Ethnic groups/multi-cultural nature of school	2.000	.126	.504
61	Supervision of year one teachers	1.900	.065	.537
62	Difficulty in obtaining promotion or move	1.825	.001	.005
63	School bus management	1.525	.041	.298

Appendix 3b Substantial Stress Ratings, in Rank Order, of Items on the Stress Checklist for Principals

(N = 40)

Rank	Item	Substantial Stress Rating
1	Management of school in wet weather	66
2	The fragmented/interrupted nature of the day	61
3	Own general work load	60
4	Competence of teacher(s)	53
5	Conversion/remodelling of school buildings	50
= 6	Purchase/maintenance of teaching equipment, e.g. audio-visual	49
= 6	Staff attitudes/values/behaviour	49
8	Maintenance of school plant	45
9	Relieving staff policy/provision	38
10	Staffing restrictions (teachers)	37
11	Maintaining/raising educational standards	36
12	Staff absenteeism/sickness absence	34
= 13	In-service education policy/provision	33
= 13	Guidance/supervision of other teachers	33
15	Demands on after school time	32
16	Vandalism of School	30
17	Amount/nature of paper work	29
18	Tensions among teachers	28
= 19	Arbitration in staff disagreements	25
= 19	Education Board contact/administration	25
= 21	School funding	24
= 21	Parent attitudes/expectations	24
= 23	Other ancillary staffing policy/provision	21
= 23	Grading/assessment procedures	21
= 25	Situations involving pupils	18
= 25	Difficulty in obtaining promotion or move	18
27	Taking classes for absent teachers	17
= 28	Inspectors' visits	16

Rank	Item	Substantial Stress Rating
= 28	Arbitration in teacher/pupil friction	16
= 28	Structure of school terms	16
= 28	Children's health or parental care	16
= 28	Ethnic groups/multi-cultural nature of school	16
33	Appointment procedures (teachers)	14
34	Involvement in fund raising	13
= 35	Staffing turn-over/number of new staff (teachers)	12
= 35	Clerical assistance	12
= 35	Implementing Dept. of Education curriculum Policy	12
= 35	Policy on leave	12
= 35	Pressure groups	12
= 35	Situations involving parents	12
= 35	Cleaning of the School	12
= 35	Counselling staff colleagues on personal matters	12
= 35	Maintaining pupil records	12
= 35	Punishing Pupils	12
45	Dealing with injured/ill children	9
= 46	Size of school	8
= 46	School bus management	8
= 46	Staff participation in decisions	8
= 46	Conflicts of interest/loyalties, e.g. teacher/parents, teachers/pupils	8
= 46	Disagreements over teaching methods	8
= 46	Tensions between different staffing groups	8
= 46	Evaluating pupil progress	8
= 46	Supervision of children on trips	8
= 46	Staff meetings	8
= 46	PTA/Home and School meetings/liaison	8
= 56	Community use of school buildings or resources	4

Rank	Item	Substantial Stress Rating
= 56	Position of principal in community	4
= 56	Supervision of year one teachers	4
= 56	Supervision of teacher trainees	4
= 56	Complaints against teachers	4
= 56	School committee meetings/ liaison	4
= 62	Lack of inspectors' visits/support	0
= 62	Constraints on developing/implementing school policy	0

Appendix 3c. SUBSCALE CONSTRUCTION

By Kathy Green, Postdoctoral Fellow, Department of Education, Victoria University of Wellington

INTRODUCTION

Subscales were derived from the stress Checklist for Principals, the Stress Inventory for Teachers, the General Health Questionnaire and the Satisfaction with Teaching Questionnaire. The method of subscale construction is described in this section. A combination of empirical and rational approaches was used, (Edwards, 1970).

Method

After issues of missing data were dealt with, all items comprising the original item pool for any one measure were input to a principal components analysis. The intention was not to derive factor scales but to identify groups of items responded to in a similar fashion by the teachers in our sample, i.e. to derive factor-based scales. Principal components analysis was used rather than factor analysis since it provides a mathematically unique solution and does not require prior commitment to assumptions about the structure of the data.

The method of principal components analysis assumes that observed item responses are attributable to some underlying unobserved structure in the set of items; this unobserved structure implies that components (or factors) produce the item correlations found in the data. Some factors are assumed to be common to several items; others may be unique to a single item. Principal components analysis identifies those items that share in a common factor by working with the correlations among the items. Its purpose is to organize and simplify the correlations. Describing each of the correlations among a large number of items would be an overwhelming task and probably not very useful. Principal components analysis results in the identification of groups of items which are highly inter-correlated. Thus, instead of working with individual items, one may work with groups of items. In addition to reducing the bulk of information dealt with, an empirical understanding is gained of the structure underlying the item set. Principal components analysis (PCA), then, provides an empirical basis for interpreting a set of items as well as simplifying that interpretation.

Once factors have been identified, a second step is taken to further simplify interpretation of the data. The factors are rotated to achieve the most psychologically meaningful arrangement. This involves letting data points remain fixed while rotating the axes against which they have been plotted. The criterion for performing the rotation is to maximize the loadings of items on a single factor, if possible. This helps in interpreting the factors that have been found.

The number of factors identified by a PCA will be equal to the number of items in the scale. However, not all of these factors will be very important in accounting for the correlations among items. One means of deciding which factors are the most important is to look at the eigenvalue associated with the factor. Factors with larger eigenvalues are those which account for more of the variance in the data. Factors are listed in computer output in order of their eigenvalues; thus, the first factor is always the one accounting for more of the variance in the data than any other factor. A rule of thumb is to ignore factors whose eigenvalues are less than 1.0. There still may be many factors remaining. To further reduce the number of factors worked with, those factors with only a few or no items loading substantially on them may be ignored as well (Nunnally 1978, pp. 346-348). In doing so one is sacrificing information which may have some value to obtain the simplest possible representation of one's data while accounting for the predominant sources of variations in the data set.

To find which items should be included in a group, one examines the factor loadings. A factor loading is the correlation between an item and a factor. If a loading is substantial (greater than .4), that item is an acceptable measure of that factor. As factor loadings increase, the item is considered an even better measure of the factor. Items that load substantially on more than one factor may be difficult to interpret and are of questionable value as measures of a single factor.

In terms of the method of subscale construction used in this work, a PCA was run on each pool of items to allow us to identify (1) groups of items which fit together empirically and (2) the groups which were the most important in describing the data. This was done by looking at the eigenvalues associated with factors and at the factor loadings of items. Once groups of items were identified, a subjective decision was made regarding how many of the groups of items were useful and made practical sense; ie, how many factors should actually be used in describing the set of items. The items within a group were then looked at conceptually to see if there was a common theme flowing through them. Items which rationally did not fit with the group were discarded. There were few instances of this and in these cases the items tended to have marginal loadings on the factor or loaded on several factors. The end result of this first stage of subscale construction was identification of item groups (factors) which were conceptually as well as empirically cohesive. While based on an empirical tool, PCA, subjective decisions governed the number of factors obtained and whether specific items with marginal loadings were to be included in a subscale.

The second stage of subscale construction took each group of items and examined whether each item individually contributed to the subscale as a whole. This was done by means of item analysis. The correlation between each item and the total subscale was examined, as well as the contribution the item made to the internal consistency reliability of the subscale. Internal consistency means that each item contributes to some unitary, unidimensional attribute. A total score obtained by summing across items which are not internally consistent would be of no greater value than adding oranges to apple crates. Items which lowered the internal consistency reliability (Cronbach's alpha) of the subscale or which had no effect on it were eliminated. This refinement left a set of items which all seemed to be measuring the same thing and each of which contributed something to the subscale. As a final step, the reliability of this remaining group of items was calculated and is reported in the appropriate appendix.

Conclusions

As mentioned earlier, use of PCA clarifies the empirical structure underlying a set of items and reduces the amount of information to be described. A further advantage of the use of factor-based subscales refined by item analysis is that the reliability of one's measurements is enhanced. Multi-item measures are generally more reliable than single-item measures. Thus one may put greater faith in the veracity of conclusions resulting from subsequent use of these measures.

References

Edwards, Allen L. The Measurement of Personality Traits by Scale and Inventories
N Y: Holt, Rinehart, and Winston, 1970.

Nunnally, June C. Psychometric Theory
N Y: McGraw-Hill, 1973

Appendix 3d Factorial Structure of the Stress Check List for Principals (Number of Principals = 40)

INTRODUCTION

With completed stress checklists from only forty principals, results derived from a principal components analysis may be highly unstable. For two reasons, it nevertheless seemed worthwhile to examine the factorial structure underlying the principal's responses. First, it was thought the results might suggest ways in which the checklist could be refined for use in future research. Second, information on sources of stress for principals is so limited that an exploratory analysis of the ways in which items are grouped would be of interest.

PROCEDURE

On the grounds that interest focussed as much on the occurrence of stress as on the prevalence, a decision was made to retain items rated "not applicable", rather than to recode them as missing data. To avoid deleting five items which had not been completed, they were recoded to the mean for the item. The sixty three sources of stress in the checklist were then subjected to a principal components analysis.

RESULTS

Principal components analysis found eighteen factors with eigenvalues greater than 1.0. The first extracted factor accounted for 21.5 per cent of the total variance (unrotated). All items loaded positively on this factor. Appendix 3a lists the loadings, which varied from .005 to .800. Any factors with fewer than four items loading significantly ($<.40$) on that factor were disregarded; in consequence, while all factors were rotated to a varimax criterion, only the first four are reported here. Details of these factors are given in Table 1. Items with a loading of .4 or more on varimax rotation of a factor were selected for inclusion in subscales (Table 2). Items loading .4 or greater on two factors were included in the subscale in which the loading was higher.

RELIABILITY. An item analysis of the entire set of sixty three items suggested that thirteen items should be dropped from the total scale. The deleted items are listed in table 3. The internal consistency reliability (α) for the sixty three item scale was .928. The thirteen items listed in table 3 either did not increase or decreased the α.

Three of the thirteen discarded items had factor loadings greater than .4 on the rotated work load/ administration factor, and one on the role conflict factor. These discarded items were not included in the subscales.

The reliabilities of the subscale listed in Table 2 were also calculated. The α's for the four subscales were .922, .845, .789 and .843 respectively. There was no instance in which deletion of an item increased the α for the final set of items selected.

TABLE 1

Factorial Structure of the Stress Checklist

	Number of items with loading >.4 on varimax rotation	Eigenvalue	Percent of total Variance
Factor 1 Staff	13	13.56	21.5
Factor 2 Work load Administration	7	6.86	10.9
Factor 3 Role-conflict	4	4.51	7.2
Factor 4 Meetings	4	3.24	5.1

TABLE 2

Stress Checklist: Loadings Greater than .4 on Varimax Rotated Factors

Factor 1 Staff

Item	Loading	Communality
Staffing Restrictions (Teachers)		
Relieving staff policy/ provision	.622	.849
Purchase/Maintenance of teaching equipment e.g. audio visual	.501	.910
Arbitration in staff disagreements	.812	.927
Staff attitudes/values/ behaviour	.770	.903
Staff absenteeism/sickness absence	.517	.892
Supervision of year one teachers	.609	.821
Competence of teachers	.613	.841
Tensions among staff	.820	.862
Staff participation in decisions	.640	.909
Counselling staff colleagues on personal matters	.605	.820
Disagreements over teaching methods	.649	.897
Tensions between different staffing groups	.797	.838

TABLE 2 (Cont'd)

Factor 2 Workload/Administration

Item	Loading	Communality
Inservice Education policy	.555	.714
Amount/nature of paper work	.500	.854
Evaluating pupil progress	.674	.857
Maintaining pupil records	.556	.883
Management of school in wet weather	.666	.852
Demands on after-school time	.660	.787
Supervision of children on trips	.483	.837

Factor 3 Role Conflict

Item	Loading	Communality
Cleaning of the school	.795	.817
Maintenance of school plant	.619	.880
Conflicts/loyalties, e.g. teacher/parents, teachers/ pupils	.574	.849
Maintaining/raising educational standards	.665	.815

Factor 4 Meetings

Item	Loading	Communality
School committee meetings/ Liaison	.680	.880
PTA/Home and School Meetings/Liaison	.852	.908
Situation involving parents	.651	.843
Staff Meetings	.632	.894

TABLE 3

ITEMS DISCARDED AFTER RELIABILITY TEST

- Clerical assistance
- Implementing Department of Education curriculum policy
- Inspectors' Visits
- Lack of inspectors' visits/support
- Education Board contact/administration
- Community use of school buildings or resources
- Position of principal in community
- School bus management
- Structure of school terms
- Complaints against teachers
- Own general workload
- Difficulty in obtaining promotion or move
- Punishing pupils.

COMMENT

In spite of the small number of respondents, the principal components analysis yielded results consistent with a rational subscale construction approach.

As noted in Chapter 5, the results complement the crude analyses based on mean ratings and "substantial stress ratings". They must, however, be regarded with caution. Moreover, it would be of doubtful value to use the sub-scales for further statistical analyses comparing the sources of stress for different groups of principals.

Appendix 4a General Health Questionnaire: Per Cent of Teachers Reporting Symptoms on Each Item in Rank Order of Items, Mean Item Rating and loading on First (Unrotated) Factor

Rank	Item	Per cent of teachers circling responses 3 or 4*	Mean Item Rating	Loading on first (Unrotated) Factor
1	been feeling full of energy?	48.6	2.50	.70
2	been feeling run down and out of sorts?	45.3	2.33	.71
= 3	been feeling perfectly well and in good health?	41.9	2.48	.58
= 3	been getting up feeling your sleep hasn't refreshed you?	41.9	2.35	.58
5	been feeling in need of a good tonic	40.6	2.23	.63
6	felt constantly under strain?	37.5	2.27	.77
7	been able to concentrate on whatever you are doing?	33.1	2.34	.66
8	been feeling mentally alert and wide awake?	32.1	2.33	.67
9	been satisfied with the way you've carried out your task?	30.7	2.28	.56
10	found everything getting on on top of you?	29.4	2.12	.75
11	felt that you are ill?	28.8	1.97	.59
12	been feeling unhappy and depressed?	28.7	2.06	.77
13	been able to enjoy your normal day-to-day activities?	28.4	2.29	.66
= 14	been having restless, disturbed nights?	26.0	1.93	.49
= 14	felt on the whole you were doing things well?	26.0	2.23	.63
16	tended to lose interest in your ordinary activities	25.3	1.92	.63
17	found yourself waking early and unable to get back to sleep?	24.6	1.90	.47
18	been taking things hard?	22.6	2.01	.72

Rank	Item	Per cent of Teachers circling responses 3 or 4*	Mean item Rating	Loading on First (Unrotated) Factor
19	lost much sleep over worry?	22.0	1.92	.58
20	felt you're just not able to make a start on anything?	20.6	1.89	.62
21	been feeling reasonably happy, all things considered?	20.2	2.04	.71
22	been losing confidence in yourself?	18.9	1.86	.67
23	been feeling nervous and strung up all the time?	18.3	1.79	.73
24	had difficulty in getting off to sleep?	17.9	1.74	.51
25	felt that you are playing a useful part in things?	17.2	2.08	.45
= 26	felt yourself dreading everything that you have to do?	15.9	1.69	.72
= 26	been finding life a struggle all the time?	15.9	1.78	.76
28	felt you couldn't overcome your difficulties?	15.3	1.81	.70
29	been getting scared or panicky for no good reason?	14.9	1.69	.66
30	felt capable of making decisions about things?	11.8	2.04	.50
31	been able to face up to your problems?	11.5	2.07	.48
32	been managing to keep yourself busy and occupied?	8.5	1.80	.24
33	been thinking of yourself as a worthless person?	8.4	1.50	.63
34	felt that life is entirely hopeless?	5.1	1.24	.58
35	found at times you couldn't do anything because your nerves were bad?	4.8	1.27	.56
36	felt that life isn't worth living?	3.3	1.18	.49

* See appendix 2d.

Appendix 4b Factorial Structure of the General Health Questionnaire (Number of Teachers = 296)

INTRODUCTION

The aims were (i) to investigate the factorial structure underlying the teachers' responses to the General Health Questionnaire, and (ii) to identify sub-scales for use in subsequent statistical analyses designed to compare the responses of certain groups of teachers on selected variables.

PROCEDURE

A correlation matrix of the thirty six items contained no negative correlations. A principal components analysis was carried out on the thirty six items.

Six components (factors) were extracted with eigenvalues greater than 1.0. Subsequent analyses identified the most readily interpretable clustering of items. Subscales were created from these for use in comparison of different groups of teachers.

RESULTS

The first of the six unrotated factors extracted accounted for 39.1 per cent of the variance. All items loaded positively on this factor. The loadings on the unrotated factor ranged from .24 to .77 and are shown in appendix 4a. Subsequently further analyses suggested that a five factor solution produced a more interpretable clustering of items. To develop subscales, items with a loading of .4 or greater on each factor were selected for subscale inclusion. In four cases where an item had a loading of .4 or greater on two factors, it was included in the subscale in which it had the higher loading. Following item analysis, two items were dropped because the internal consistency reliability (Cronbach's α) for the subscale was increased by deletion of the item. The items were: "been getting up feeling that your sleep hasn't refreshed you?" from factor two, and "been managing to keep yourself busy and occupied?" from factor 5. The reliability coefficients for the five subscales after discarding these two items were .936, .894, .827, .854 and .830. Details about the five factors are given in Table 1. Items in each subscale are shown in Table 2.

Table 1. Factorial Structure of the General Health Questionnaire on Varimax Rotation.

Label		Number of items with loading of ≥.4 on varimax rotation	Eigenvalue	Per cent of total variance
Factor 1	Under pressure	14	14.06	39.1
Factor 2	Run down	6	2.68	7.5
Factor 3	Loss of confidence	7	2.12	5.9
Factor 4	Sleep problems	4	1.71	4.8
Factor 5	Depression	3	1.34	3.7

COMMENT

The factorial structure of the General Health Questionnaire appears, on this analysis, to be reasonably clear. The reliability of the five subscales based upon results of the principal components analysis was satisfactory. Some caution must be expressed, however, as the number of cases was somewhat lower than the number desirable for a principal components analysis (10 cases per variable being a rule of thumb). Nevertheless, the reliabilities of the subscales are sufficiently high to allow their use in comparing the symptoms reported by different groups of teachers.

Table 2. Subscales Derived from the General Health Questionnaire (Number of Teachers = 296 (Varimax Rotation)

Factor 1 Under Pressure	Loading	Communality
Felt yourself dreading everything that you have to do?	.625	.572
Felt constantly under strain?	.674	.689
Felt you couldn't overcome your difficulties?	.744	.642
Been finding life a struggle all the time?	.695	.684
Been able to enjoy your normal day-to-day activities?	.494	.471
Been taking things hard?	.752	.663
Been getting scared or panicky for no good reason?	.615	.552
Been able to face up to your problems?	.441	.392
Found everything getting on top of you?	.737	.681
Been feeling unhappy and depressed?	.678	.656
Been losing confidence in yourself?	.622	.544
Been thinking of yourself as a worthless person?	.472	.551
Been feeling reasonably happy, all things considered?	.475	.526
Been feeling nervous and strung-up all the time?	.710	.640

Table 2 (continued)

Factor 2 Run Down	Loading	Communality
Been feeling perfectly well and in good health?	.801	.697
Been feeling in need of a good tonic?	.777	.697
Been feeling run-down and out of sorts?	.795	.782
Felt that you are ill?	.785	.683
Been able to concentrate on whatever you are doing	.507	.570
Been feeling full of energy?	.619	.653

Factor 3 Loss of Confidence	Loading	Communality
Been feeling mentally alert and wide awake?	.531	.617
Tended to lose interest in your ordinary activities?	.539	.517
Felt on the whole you were doing things well?	.669	.606
Been satisfied with the way you've carried out your task?	.736	.636
Felt that you are playing a useful part in things?	.605	.420
Felt capable of making decisions about things?	.593	.442
Felt you're just not able to make a start on anything?	.432	.480

Table 2 (continued)

Factor 4 Sleep Problems	Loading	Communality
Found yourself waking early and unable to get back to sleep?	.772	.675
Lost much sleep over worry?	.763	.735
Had difficulty in getting to sleep?	.740	.639
Been having restless, disturbed nights?	.829	.748

Factor 5 Depression	Loading	Communality
Felt that life is entirely hopeless?	.761	.785
Felt that life isn't worth living?	.788	.743
Found at times you couldn't do anything because your nerves were bad?	.555	.552

Appendix 5a Stress Inventory for Teachers: Mean Rating of Items in Rank Order of Mean Ratings, Correlation with Overall stress, and Loading on First (Unrotated) Factor

Rank	Item	Mean Value	Loading on first (Unrotated) Factor
1	There was at least one problem child in my class	3.06	.608
2	Some children did not do as they were told straight away	2.96	.596
3	I was not able to do enough with individual pupils	2.82	.571
4	The children did not listen to what was said	2.63*	.590
5	A child did not do as I told him/her to	2.63	.637
6	Children made a lot of noise during this lesson/activity	2.58	.581
7	Some children were hostile and aggressive to each other	2.55	.591
8	I was interrupted by other people/ events	2.48	.413
9	Children had difficulties in learning/ understanding	2.44	.609
10	The weather made the children restless	2.38	.467
11	Some children showed a lack of interest in this lesson/activity	2.33	.656
12	I found myself very concerned with the plight of one child/group	2.30	.587
13	I found it difficult to reach the standard I wanted during this lesson/ activity	2.28	.643
14	I had extra clerical/organizational demands	2.15	.277
15	There was insufficient time to do what I had planned	2.11	.484
16	The class was difficult to manage	1.93	.640
17	Too many things happened at once and I found it hard to cope	1.92	.552

Rank	Item	Mean Value	Loading on First (Unrotated) Factor
18	I was involved with an extra-curricular activity	1.90	.235
19	I did not teach this lesson/activity very well	1.89	.585
20	I was on playground duty	1.88	.190
21	There was a lot of mess during this lesson/activity	1.87	.379
22	I had to collect and check money	1.85	.198
23	A child was rude or hostile	1.84*	.573
24	My teaching equipment was inadequate/unsatisfactory	1.84	.492
25	The beginning of the lesson/activity was difficult	1.82	.532
26	A child deliberately defied me	1.79	.509
27	Children were unable to get on with their work during the lesson/activity	1.78	.560
28	It was difficult to bring this lesson/activity to a satisfactory conclusion	1.76	.569
29	There was tension among staff	1.73*	.392
30	My planning was inadequate/unsatisfactory	1.73	.334
31	A child was late for my class	1.70	.394
32	I gave too much time to backward children and the rest of the class suffered	1.68	.546
33	A member of staff annoyed me	1.62	.175
34	I found another member of staff difficult to work with	1.61	.290
35	I found a subject (e.g. music, P.E. etc.) difficult because I am not very good at teaching it	1.60	.456
36	I did the wrong thing and this upset me	1.50	.572
37	I was anxious for the safety of the children	1.46	.368
38	I discussed a child with a parent	1.35	.344

Rank	Item	Mean Value	Loading on First (Unrotated) Factor
39	I had to supervise my class during playtime	1.40*	.367
40	I was not consulted on a decision which affected me	1.40	.330
41	I never knew what was going to happen next during this lesson/activity	1.38	.432
42	I disagreed with another member of staff	1.36	.302
43	I did not know how to handle this situation	1.35	.432
44	I felt another teacher was observing me critically	1.33	.374
45	School policy required me to do something I disagreed with	1.24	.390
46	A child was physically aggressive towards me	1.11	.239

* The mean score has been rounded up, or down, to two decimal places. The rank order is based on the mean score to four decimal places.

Appendix 5b. Factorial Structure of the Stress Inventory for Teachers (Number of Teachers = 296)

INTRODUCTION

The aims were: (i) to investigate the factorial structure underlying the teachers' responses to the Stress Inventory, and (ii) to identify subscales for use in subsequent statistical analyses designed to compare the responses of certain groups of teachers on selected variables.

PROCEDURE

As explained in chapter 8, respondents completed the Stress Inventory on three separate days. Principal components analyses were carried out on results for each day separately to provide information about the stability of underlying factors over time.

One item was excluded from the analyses from the beginning because ninety three per cent of teachers rated it "did not occur". The item was: "a child was physically aggressive towards me".

Items rated "did not occur" were retained in the analyses. The alternative possibility was to recode them as missing data. This was rejected on the grounds that interest focussed as much on the occurrence of stress as on the intensity.

Twelve components (hereafter referred to as "factors") were extracted with eigen-values greater than 1.0. Subsequent analyses explored solutions extracting fewer factors. Varimax rotation was used. Results from each of the three days were analysed in creating subscales. With one proviso which is discussed below, the overall picture was similar on each of the three days. However, the results presented below relate specifically to day one, unless otherwise stated.

RESULTS

The first of the twelve factors extracted accounted for 22.8 per cent of the total variance. All items loaded positively on this factor. The loadings on the unrotated factor ranged from .179 to .656 and are shown in appendix 5a. Further analyses showed that a five factor varimax-rotated solution produced the most useful clustering of items.

Identification of items for subscales was complicated by minor variations in the pattern of results on each of the three days. For example, factors four and five reversed order on day three (although the clustering of items was relatively unaffected). Three criteria were used to identify item clusters: (i) that the loading of an item on a factor be greater than .40 for two of the three days, (ii) that items loaded highest on the same factor for all three days, and (iii) that the item should describe a broadly similar source of stress to the other items identified for the subscale.

Following preliminary selection of items, item analysis results suggested that four items should be discarded as the internal consistency reliability (Cronbach's α) for the subscale was increased by deletion of the item. One item was deleted from each of factors one, two, three and five. The reliability for the five subscales after discarding these four items were .875, .840, .826, .549 and .559.

These reliabilities, however, refer to day one. In view of the variations in optimal item groupings over the three days, it is important to know whether similar reliabilities would be obtained for days two and three. On day two the αs for the five subscales were .872, .804, .794, .464 and .621. On day three they were .862, .818, .832, .468 and .620. A further question is whether, on each of the three days, the subscale totals correlated similarly with the total scale. Any subscale which did not would have to be regarded with great caution. In fact, all the correlations were positive, significant ($p < .001$), and correlated in the same direction and to a similar degree over the three days.

Details about the five factors are given in Table 1. Items in each subscale are shown in Table 2.

Table 1. Factorial Structure of the Stress Inventory for Teachers (Unrotated)

	Label	Number of items selected for subscale	Eigen-value	Per cent of total variance
Factor 1	Children's behaviour	9	10.46	23.2
Factor 2	Teaching problems and children's progress	10	3.98	8.8
Factor 3	Staff relationships	6	2.15	4.8
Factor 4	Multiple roles	5	2.01	4.5
Factor 5	Extra duties	4	1.56	3.5

COMMENT

The reliabilities of the subscales are sufficiently high to allow their use in comparing the sources of stress for different groups of teachers.

The five subscales contained thirty four of the forty six items in the Stress Inventory. As noted already, one item was discarded before the principal components analysis was carried out, and four following the item analysis. It is worth noting that some of the items which did not feature in the subscales ranked fairly high in the list of mean ratings, for example: "the weather made the children restless". These items clearly constitute important sources of stress, even though they did not contribute in a useful way to these factor-based subscales.

Table 2. Subscales Derived from the Stress Inventory for Teachers

(Number of Teachers = 296) (Varimax Rotation)

Factor 1 Children's Behaviour	Loading*		Communality*
	Lowest	Highest	
There was at least one problem child in my class	.624	.745	.574
Some children did not do as they were told straight away	.674	.708	.634
A child did not do as I told him/her to	.755	.778	.634
A child deliberately defied me	.669	.771	.613
The children did not listen to what was said	.615	.651	.522
A child was rude or hostile	.677	.750	.592
Children made a lot of noise during this lesson/activity	.428	.635	.483
Some children were hostile and aggressive to each other	.521	.606	.416
The class was difficult to manage	.562	.643	.569

Factor 2 Teaching Problems and Children's Progress	Loading*		Communality*
	Lowest	Highest	
My planning was inadequate/unsatisfactory	.561	.665	.449
I found another subject (eg Music, P.E. etc.) difficult because I am not very good at teaching it	.450	.662	.416
The beginning of the lesson/activity was difficult	.407	.554	.419
I did the wrong thing and this upset me	.239	.493	.361
I found it difficult to reach the standard I wanted during this lesson/activity	.632	.665	.545
I did not teach this lesson/activity very well	.548	.678	.521
Too many things happened at once and I found it hard to cope	.268	.645	.504
Some children showed a lack of interest in this lesson/activity	.476	.584	.526
It was difficult to bring this lesson/activity to a satisfactory conclusion	.518	.661	.601
Children had difficulties in learning/understanding	.365	.495	.417

Factor 3 Staff Relationships	Loading*		Communality*
	Lowest	Highest	
I found another member of staff difficult to work with	.731	.794	.657
A member of staff annoyed me	.727	.805	.674
I was not consulted on a decision which affected me	.385	.698	.523
I felt another teacher was observing me critically	.541	.606	.430
I disagreed with another member of staff	.780	.848	.721
There was tension among staff	.619	.730	.556

Factor 4 Multiple Roles	Loading*		Communality*
	Lowest	Highest	
I was anxious for the safety of the children	.195	.548	.364
There was insufficient time to do what I had planned	.421	.503	.436
I was on playground duty	.474	.615	.383
I had to supervise my class during playtime	.584	.670	.550
I never knew what was going to happen next during the lesson/activity	.187	.593	.406

Factor 5 Extra Duties	Loading*		Communality*
	Lowest	Highest	
I was interrupted by other people/ events	.250	.571	.422
I had to collect and check money	.325	.643	.436
I was involved with an extra-curriculum activity	.529	.641	.455
I had extra clerical/organisational demands	.636	.756	.597

*The lowest and highest loadings are reported in this table, with the communality for the day on which the highest loading occurred.

Appendix 6a The Satisfaction with Teaching Questionnaire: Per Cent of Teachers who were "Very Satisfied" or "Fairly Satisfied" in Rank Order of Items, Correlation with Overall Satisfaction, Mean Item Rating, and Loading on First (Unrotated) Factor

Rank	Item	Per cent of Teachers	Correlation with over-all satisfaction	Mean Rating	Loading on first (unrotated factor
1	Your relationship with pupils	95.9	.331	4.37	.286
2	Your relationship with other teachers	94.3	.245	4.35	.296
3	Your freedom to select teaching methods	87.5	.308	4.16	.521
4	The timetabling of the programme/activities	87.2	.276	4.03	.538
5	Your freedom to select subject matter for your class(es)	84.8	.200	4.10	.462
6	The number of hours you teach each week	83.4	.286	3.96	.475
7	Your relationship with senior staff in the school	81.8	.184	4.04	.433
= 8	The level of pupil achievement in your class(es)	81.1	.347	3.92	.500
= 8	Your allocation to teaching a particular class/unit	81.1	.149	3.91	.343
10	The general behaviour of pupils in your class(es)	80.7	.406	3.70	.426
11	The stimulation in your work	78.4	.457	3.96	.387
12	The expectations senior staff/ the principal hold for you as a teacher	77.3	.309	3.89	.558
13	Your freedom to determine methods of assessment of pupils	75.4	.200	3.85	.394
14	The ability level of pupils in your class(es)	71.7	.344	3.78	.507
15	The attitudes of pupils towards learning	69.5	.309	3.72	.485
16	The general behaviour of pupils in the school	69.2	.403	3.99	.404

Rank	Item	Per Cent of Teachers	Correlation with over-all satisfaction	Mean Rating	Loading on first (unrotated) factor
17	Recognition by others of your work	65.5	.196	3.56	.452
18	The provision of useful advice to assist you with problems you encounter in teaching	64.9	.224	3.68	.455
19	The availability of library and audio-visual resources	64.2	.167	3.67	.522
20	Your entitlements to leave of absence	64.1	.134	3.61	.305
21	The distribution of resources within the school	63.8	.202	3.65	.524
22	The availability of replacement staff in the event of absences	63.2	.155	3.63	.357
23	Your freedom to select teaching materials (within available funds)	62.1	.081	3.60	.477
24	The salary you receive	60.1	.211	3.56	.365
25	Your responsibility for a particular curriculum area	59.8	.093	3.25	.296
26	The physical conditions of your classroom(s)	55.7	.162	3.49	.401
= 27	The attitudes of parents towards education	55.4	.337	3.49	.475
= 27	Your involvement in decisions about school policy	55.4	.188	3.40	.429
29	The size of the class(es) you teach	53.7	.167	3.49	.327
30	The prospect of teaching as a life-time career	48.0	.372	3.32	.352
31	The number of hours of non-teaching duties each week	46.3	.117	3.34	.430
32	The availability of facilities for your recreation activities	43.6	.158	3.16	.537
33	Provisions and opportunities for further formal study	40.5	.076	2.97	.292
34	The amount of preparation and correction required of you during and out of school time	38.8	.312	3.19	.523
35	The availability of ancillary staff to assist you.	37.9	.253	3.14	.556
36	The status of teachers in society	36.8	.219	3.16	.363

Rank	Item	Per Cent Of Teachers	Correlation with over-all satisfaction	Mean Rating	Loading on first (unrotated factor
37	Your eventual retirement benefits	31.4	-.018	2.46	.260
38	The factors used to determine salaries	28.1	.136	2.93	.268
39	The opportunities for useful in-service education	24.3	.158	2.94	.287
40	The attitudes of society towards education	23.7	.211	2.94	.403
41	The preparation time available during the school day	21.7	.208	2.74	.515
42	The methods used to grade teachers for promotion	19.2	.046	2.67	.271

Appendix 6b Per Cent of Teachers who were "Very Dissatisfied" or "Fairly Dissatisfied" on Items in the Satisfaction with Teaching Questionnaire, in Rank Order of Items.

Rank	Item	Per Cent of Teachers
1	The methods used to grade teachers for promotion	74.7
2	The attitudes of society towards education	74.3
3	The opportunities for useful in-service education	73.0
4	The preparation time available during the school day	72.3
5	The factors used to determine salaries	67.2
= 6	The status of teachers in society	59.1
= 6	The amount of preparation and correction required of you during and out of school time	59.1
8	The availability of ancillary staff to assist you	58.8
9	The number of hours of non-teaching duties each week	48.6
10	The availability of facilities for your recreation activities	46.9
11	The size of the class(es) you teach	45.3
= 12	The physical conditions of your classroom(s)	43.6
= 12	The prospect of teaching as a life-time career	43.6
14	Provisions and opportunities for further formal study	43.3
15	The attitudes of parents towards education	41.9
16	The salary you receive	38.5
17	Your involvement in decisions about school policy	35.4
18	The availability of replacement staff in the event of absences	35.1
19	The availability of library and audio-visual resources	34.8
20	The distribution of resources within the school	34.5

Rank	Item	Per cent of teachers
21	Your freedom to select teaching materials (within available funds)	33.7
22	The provision of useful advice to assist you with problems you encounter in teaching	33.1
23	Your entitlements to leave of absence	32.1
= 24	The attitudes of pupils towards learning	29.4
= 24	The general behaviour of pupils in the school	29.4
26	Recognition by others of your work	29.0
27	Your eventual retirement benefits	27.1
28	The ability levels of pupils in your class(es)	25.0
29	Your freedom to determine methods of assessment of pupils	22.9
30	The stimulation in your work	19.3
31	The expectations senior staff/the principal hold for you as a teacher	19.0
32	Your responsibility for a particular curriculum area	18.6
33	The level of pupil achievement in your class(es)	17.6
34	The general behaviour of pupils in your class(es)	17.2
35	Your relationship with senior staff in the school	15.9
36	The number of hours you teach each week	15.5
37	Your freedom to select subject matter for your class(es)	14.6
38	Your freedom to select teaching methods	12.2
39	Your allocation to teaching a particular class/unit	10.5
40	The time-tabling of the programme/activities	10.4
41	Your relationship with other teachers	4.8
42	Your relationships with pupils	3.7

Appendix 6c Factorial Structure of a Satisfaction with Teaching Questionnaire

INTRODUCTION

The aims were (i) to investigate the factorial structure underlying the teachers' responses to the satisfaction with teaching questionnaire, and (ii) to identify subscales for use in subsequent statistical analyses designed to compare the responses of certain groups of teachers on selected variables.

PROCEDURE

A principal components analysis was carried out on the fortytwo items, with "not relevant" responses recoded as the midpoint between "fairly dissatisfied" and "fairly satisfied". The question about overall satisfaction was not included. Twelve components (factors) were extracted. Subsequent analyses identified the most readily interpretable clusterings of items. Subscales were created from these.

RESULTS

The first of the twelve factors extracted accounted for 18.1 per cent of the total variance (unrotated). All items loaded positively on this factor. Loadings on the unrotated factor ranged from .260 to .558, and are shown in appendix 6a. A five factor varimax rotated solution produced a more interpretable clustering of items. Items with a loading of .4 or greater on a factor (varimax rotation) were selected for subscale inclusion. Following item analysis two items were dropped because the internal consistency reliability (α) for the subscale was increased by deletion of the item. The items were "your eventual retirement benefits" from factor one, and "the opportunities for useful inservice education" from factor five. The α's for the five subscales after discarding these two items were .741, .817, .731, .642 and .706. Details about the five factors are given in Table 1. Items in each subscale are shown in Table 2.

COMMENT

Holdaway (1978) identified seven factors from his original satisfaction with teaching questionnaire. Ainley (1981) also obtained a seven factor solution both for secondary and for primary school teachers in Australia. The factorial structure, however, was less clear in the case of the primary teachers. In the present study, the seven-factor solution produced uninterpretable results. While the factorial structure in the five factor solution is reasonably clear, the communalities of some items are low ($<.35$), indicating either unreliable items or measurement of some unique characteristic other than that assessed by the remaining items. The reliabilities of the subscales are, however, adequate for use of these subscales in group comparisons.

TABLE 1 Factorial Structure of the Satisfaction with Teaching Questionnaire (Number of teachers :296)

	Label	Number of items with loading≥.4 on varimax rotation	Eigen-value	Per cent of total Variance
Factor 1	School administration and conditions of employment	12	7.60	18.1
Factor 2	Children's attitudes and progress	8	3.01	7.2
Factor 3	Interaction with colleagues	8	2.51	6.0
Factor 4	Recognition by Society	6	1.79	4.3
Factor 5	Professional Autonomy	3	1.60	3.8

TABLE 2 Subscales Derived from the Satisfaction with Teaching Questionnaire (Number of Teachers = 296)

Factor 1 School Administration and Conditions of Employment	Loading	Communality
The availability of library and audio-visual resources	.441	.307
The number of hours you teach each week	.517	.355
The number of hours of non-teaching duties each week	.531	.371
The availability of ancillary staff to assist you	.544	.404
Your freedom to select teaching materials (within available funds)	.435	.357
The preparation time available during the school day	.546	.382
The physical conditions of your classroom(s)	.455	.348
Your allocation to teaching a particular class/unit	.432	.294
The size of the class(es) you teach	.460	.246
The availability of facilities for your recreation activities	.504	.349
The amount of preparation and correction required of you during and out of school time	.573	.445
Your entitlements to leave of absence	.411	.251

Factor 2 Children's Attitudes and Progress	Loading	Communality
Your relationship with pupils	.610	.392
The attitudes of pupils towards learning	.715	.565
The attitudes of parents towards education	.567	.432
The general behaviour of pupils in the school	.689	.506
The level of pupil achievement in your class(es)	.687	.541
The stimulation in your work	.427	.258
The ability level of pupils in your class(es)	.637	.465
The general behaviour of pupils in your class(es)	.736	.550

Factor 3 Interaction with Colleagues	Loading	Communality
The expectations senior staff/the principal hold for you as a teacher	.546	.498
Your relationships with senior staff in the school	.683	.508
Your relationships with other teachers	.637	.419
Recognition by others of your work	.542	.400
The provision of useful advice to assist you with problems you encounter in teaching	.596	.413
The time-tabling of the programme/activities	.456	.381
Your involvement in decisions about school policy	.550	.396
The distribution of resources within your school	.512	.405

Factor 4 Recognition by Society	Loading	Communality
The status of teachers in society	.638	.464
The salary you receive	.605	.458
The attitudes of society towards education	.595	.458
The methods used to grade teachers for promotion	.505	.299
The factors used to determine salaries	.648	.478
The prospect of teaching as a lifetime career	.519	.309

Factor 5 Professional Autonomy	Loading	Communality
Your freedom to select subject matter for your class(es)	.645	.542
Your freedom to select teaching methods	.597	.557
Your freedom to determine methods of assessment of pupils	.503	.343

References

AINLEY, J (1981) Personal Communication

HOLDAWAY, E.A. (1978) Facet and overall satisfaction of teachers. Educational Administration Quarterly, 14, 1, 30-47.

Appendix 7a. Relationship between Independent Variables.

INTRODUCTION AND METHOD.

As noted in chapter 10, it was probable that some of the independent variables were inter-related. Two procedures were used to investigate this possibility: (1) The relationship between variables measured on a nominal scale was assessed using the chi square test. A cross tabulation of the data showed the actual number of teachers in each cell, and the expected numbers if the two variables were independent. In some cases, (for example, age group and marital status) a statistically significant chi square was found, indicating that the two variables were not independent; a disproportionate number of single teachers were less than thirty; (2) Variables measured on an ordinal or interval scale were correlated with each other, using Spearman's rho. Again, a statistically significant correlation indicated a lack of independence between the two variables. Results are shown in Table 1.

The major results from this table are: (i) that all the pupil intake variables are inter-related, and (ii) that the structural variables dealing with the school's buildings, size, location and type are inter-related, both with each other and with all the pupil intake variables. That is, variables such as the adequacy of school buildings and the size and quality of the school's playground have a positive relationship with parental incomes, family stress and the number of European children, and a negative relationship with the number of Maori and other Polynesian children. If the principals' ratings are valid, the implication is that children from low income families attend schools which are disadvantaged in terms of building and playground facilities. To some extent this may be inevitable. Particularly in central areas with relatively high-density housing, urban schools may have older buildings and less space.

In the light of the strong relationship between the structural and pupil intake variables, one possibility is simply to discard all the redundant variables. The most obvious candidates for retention would either be the proportion of children of European descent on the school roll, or the proportion of Maori children. Another possibility is to retain all the variables, while explicitly recognising that they are not independent. For two reasons we adopted the second course.

(1) The fact that two variables are related does not necessarily imply complete uniformity in their effects on sources of stress, ill-health and satisfaction. For example, it is possible that the two categories of classroom organisation might differ significantly on inspectors' visits and class trips. It does not follow that the proportion of European children will also differ on these variables, even though classroom organisation and the proportion of European children (Table 1) were found to be significantly related. The most that may be said is that a significant relationship between two independent variables increases the possibility that a similar result will be obtained when they are each tested against the same dependent variable.

(2) Although statistically significant, most of the correlations were less than .4 (accounting for less than sixteen per cent of the variance), except for pupil intake variables related to proportions of ethnic groups within

the school.

Table 1 also shows relatively few significant relationships between the biographical and professional variables. The exceptions were: (i) a predictable relationship between age, marital status, category of teacher and nature of present appointment; (ii) a strong relationship between all the structural and pupil intake variables, and teaching-or-walking principal and age of principal. This suggests that older principals tend to have larger schools and tend to be in areas with relatively high proportions of non-European children.

The same questions arose when deciding whether to retain all the biographical and professional variables as with the structural and pupil intake variables. Again, the correlations were generally low, accounting only for a small proportion of the variance. It therefore seemed worthwhile to carry out analyses with all the variables, but to acknowledge their inter-relationship when describing the results. Further, it was recognised that complex analyses would be limited due to multicollinear independent variables.

Table 1. RESULTS OBTAINED FROM SPEARMAN RANK ORDER CORRELATION COEFFICIENTS BETWEEN INDEPENDENT VARIABLES (ORDINAL DATA) AND CHI SQUARES (NOMINAL DATA)^{x}

	Sex	Marital* status	Category* of teacher	Nature of present appointment	Commitment* to remain in teaching	Teaching or walking principal	Age of principal	Grade of School
Age	-.02	x^2: 31.0**	x^2: 99.2**	-.53**	x^2: 62.2**	-.14^{++}	-.06	.00
Sex		x^2: .60	x^2: 5.9^{+}	.15^{++}	x^2: 5.8	.01	-.02	.10^{+}
Marital Status			x^2: 25.7**	x^2: 20.0**	x^2: 4.7	x^2: 1.2	x^2: .31	x^2: 7.9
Category of teacher				x^2: 184.0**	x^2: 37.4**	x^2: 7.6^{+}	x^2: 7.3^{+}	x^2: 3.18
Nature of present appointment					x^2: 36.4**	.12^{+}	.14^{++}	.08
Commitment to remain in teaching						x^2: 1.3	x^2: 4.7	x^2: 2.4
Teaching or walking principal							.18**	.45**
Age of principal								.37**
Grade of school								
Type of school								
Location								
Classroom organisation								
Adequacy of school buildings								
Playground space								
Playground quality								
Parent incomes								
Family stress								
European children								
Maori children								

* Nominal data

$+$ $p < .05$

$++$ $p < .01$

$**$ $p < .001$

^{x} Degrees of freedom follow the usual convention.

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Table 1 (continued)

Type of* School	Location	Classroom organisation	Adequacy of school buildings	Playground space	Playground quality	Parent * incomes	Family stress	European children	Maori children	Other Polynesian children
x^2: 4.0 x^2: 9.9^{++} x^2: 4.6	$-.10^{+}$ -.08 x^2: 3.4	.05 -.05 x^2: 4.3	$.09^{+}$ .05 x^2: .10	-.05 -.04 x^2: 7.4	-.04 .00 x^2: 11.2^{+}	x^2: 15.0^{+} x^2: 3.4 x^2: 6.0	$-.14^{++}$ -.04 x^2: 3.7	$.10^{+}$ .02 x^2: 1.5	$-.14^{++}$ -.05 x^2: .78	$-.14^{++}$ -.01 x^2: 1.08
x^2: .67 x^2: 1.0 x^2: 4.0 x^3: 5.5 x^2: 41.7^{**}	x^2: 3.5 $.10^{+}$ x^2: .6 $.17^{++}$ .09	x^2: 1.18 .02 x^2: 3.5 $.16^{++}$ .08	x^2: 2.3 .08 x^2: 5.8 $.28^{**}$ .04	x^2: 3.9 .05 x^2: .51 $.19^{**}$ $.29^{**}$	x^2: 1.5 .02 x^2: 1.9 $.22^{**}$ -.03	x^2: 3.8 x^2: 1.8 x^2: 3.7 x^2: 104.1^{**} x^2: 18.1^{**}	x^2: .6 .03 x^2: 6.9 $.15^{++}$ $.20^{**}$	x^2: 2.0 -.08 x^2: 3.7 $-.27^{**}$ $-.29^{**}$	x^2: 2.0 .0.9 x^2: 6.7^{+} $.27^{**}$ $.40^{**}$	x^2: 1.0 .06 x^2: 5.7 $.13^{+}$ $.22^{**}$
x^2: 117.8^{**}	$.10^{+}$ x^2: 93.5^{**}	$.28^{**}$ x^2: 7.7^{+} -.06	$.29^{**}$ x^2: 93.8^{**} $.30^{**}$ $.17^{++}$	$.27^{**}$ x^2: 47.6^{**} $.15^{++}$ -.07 .3[illegible]	$.27^{**}$ x^2: 25.8^{**} $.23^{**}$ -.09 $.49^{**}$ $.81^{**}$	x^2: 40.5^{**} x^2: 87.0^{**} x^2: 88.6^{**} x^2: 8.0^{**} x^2: 43.5^{**} x^2: 60.2^{**} x^2: 54.3^{**}	$.16^{++}$ x^2: 40.8^{**} $.16^{++}$ $.21^{**}$ $.18^{**}$ $.14^{++}$ .06	$-.28^{**}$ x^2: 28.1^{**} $-.34^{**}$ $-.19^{**}$ $-.37^{**}$ $-.35^{**}$ $-.28^{**}$	$.20^{**}$ x^2: 50.9^{**} $.22^{**}$ $.26^{**}$ $.17^{++}$ $.17^{++}$ .08	$.20^{**}$ x^2: 24.0^{**} $.28^{**}$ $.16^{++}$ $.32^{**}$ $.41^{**}$ $.36^{**}$
							x^2: 228.8^{**}	x^2 160.7^{**} $-.83^{**}$	x^2: 129.4^{**} $.79^{**}$ $-.83^{**}$	x^2: 148.8^{**} $.86^{**}$ $-.92^{**}$ $.79^{**}$

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Appendix 7b. Sources of Stress, Health and Satisfaction: Biographical Variables, Showing Overall Significance levels, and Significant Differences between Categories.

	Age*	Sex*	Marital status*
Overall stress rating	$<.01$; $a > d$	NS	$<.05$
Stress inventory mean rating	NS	NS	NS
Children's behaviour	$<.005$; $a > b, d$	NS	NS
Teaching problems and children's progress	NS	NS	NS
Staff relationships	NS	NS	NS
Multiple roles	$<.004$; $c > a, d$	NS	NS
Extra duties	NS	NS	NS
Teaching reading	$<.006$; $a > b, c$	NS	NS
Teaching maths	$<.05$;	NS	NS
Teaching science	NS	$<.002$; $a > b$	NS
Teaching music	NS	NS	NS
Parent-teacher interviews	$<.001$; $a > c, d$	NS	$<.05$; $b > c$
Inspectors' visits	NS	$<.03$; $a > b$	NS
Class trips	NS	NS	NS
Family illness	$<.001$; $b, c > a$	NS	$<.01$; $b > a$
Financial worries	$<.001$; $b > a, d$	$<.03$; $a > b$	$<.005$; $c > a$
Encroachment of job on personal time	NS	$<.05$; $b > a$	NS
Obtaining next position	$<.001$; $a, b > c, d$	NS	$<.009$; $a > c$
General Health Questionnaire mean rating	NS	NS	NS
Under pressure	NS	$<.01$; $b > a$	NS
Run down	$<.01$; $a > d$	NS	NS
Loss of confidence	$<.03$; $a > d$	NS	NS

	Age*	Sex*	Marital status*
Sleep problems	NS	NS	NS
Depression	NS	NS	NS
Number of one day absences due to poor health	<.003; a>b, c,d	<.02; b>a	NS
Total number of absences due to poor health	NS	<.001; b>a	NS
Satisfaction with Teaching Questionnaire mean rating	<.001; d>a, c;c>a	NS	NS
School administration and conditions of employment	<.02; d>a	NS	NS
Children's attitudes and progress	<.01; d>a	NS	NS
Interaction with colleagues	<.006; d>a	NS	NS
Recognition by society	<.001; d,c>a	NS	NS
Professional autonomy	NS	<.02; a>b	NS
Overall satisfaction	NS	NS	NS

* See Appendix 7f for key to categories in each variable.

Appendix 7c Sources of Stress, Health and Satisfaction: Professional Variables, Showing Overall Significance Levels and Significant Differences Betwen Categories

	Teaching* Experience	Nature of Present* Appointment	Commitment to Remain* Teaching	Teaching or Non-teaching* Principal	Age of Principal*
Overall stress rating	<.03;	<.01; a>b	NS	NS	NS
Stress inventory mean rating	<.03 b>c	<.01; a>b	NS	<.03; b>a	NS
Children's behaviour	<.1; b>c	<.001; a>b	NS	NS	NS
Teaching problems & children's progress	NS	NS	NS	NS	NS
Staff relationships	NS	NS	NS	<.002; b>a	NS
Multiple Roles	NS	NS	NS	NS	<.01; a>b
Extra duties	NS	NS	NS	NS	NS
Teaching reading	<.002; b>c	<.01; a>b	NS	NS	NS
Teaching maths	NS	NS	NS	NS	<.03; b>a
Teaching science	NS	NS	NS	NS	NS
Teaching music	NS	NS	NS	NS	NS
Parent-teacher Interviews	<.02	<.001; a>b	NS	NS	NS

	Teaching* Experience	Nature of Present* Appointment	Commitment to Remain* Teaching	Teaching or Non-teaching* Principal	Age of Principal*
Inspectors Visits	NS	NS	NS	NS	NS
Class trips	<.01; b,c>a	NS	NS	NS	NS
Family illness	<.01; c>a	NS	NS	NS	NS
Financial worries	NS	NS	NS	NS	NS
Enchroachment of job on personal time	NS	NS	NS	NS	NS
Obtaining next position	<.001; a,b>c	<.001; a>b	<.02; b>c	.03; b>a	NS
General health questionnaire mean rating	NS	NS	NS	<.02; b>a	NS
Under pressure	NS	NS	NS	<.04; b>a	NS
Run down	<.002; a,b>c	<.01; a>b	NS	<.01; b>a	NS
Loss of confidence	NS	NS	<.05	NS	NS
Sleep problems	NS	NS	NS	NS	NS
Depression	NS	NS	NS	<.001; b>a	NS

	Teaching* Experience	Nature of Present*	Commitment to Remain* Teaching	Teaching or Non-teaching* Principal	Age of Principal*
Number of one day absences due to poor health	NS	NS	NS	NS	NS
Total number of absences due to poor health	NS	NS	NS	NS	<.02; a>b
Satisfaction with teaching questionnaire mean rating	<.001; c>b	<.001; b>a	NS	<.001; a>b	<.002; b>a
School Administration and conditions of employment	<.04; c>b	<.03; b>a	NS	<.001; a>b	<.01; b>a
Children's attitudes and progress	NS	NS	NS	<.001; a>b	<.02; b>a
Interaction with colleagues	<.5	<.03; b>a	NS	<.001; a>b	NS
Recognition by society	<.001; c>b	<.002; b>a	<.003; a>b,c	<.001; a>b	<.001; b>a
Professional Autonomy	<.02; c>b	<.03; b>a	NS	<.002; a>b	NS
Overall Satisfaction	<.03 a>b	NS	<.04; a>c	<.02; a>b	NS

* See Appendix 7f for key to categories in each variable.

Appendix 7d. Sources of Stress, Health and Satisfaction: Demographic/Structural Variables, Showing Overall Significance Levels and Significant Differences between Categories.

	Grade of* School	Type of* School	Location*	Classroom* Organisation	Adequacy of* school buildings	Playground* space
Overall stress rating	NS	NS	NS	NS	NS	NS
Stress Inventory mean rating	<.05; b>a	NS	NS	<.001; b>a	NS	<.02; c>a, b
Children's behaviour	<.01; b>a	NS	<.03; a>b	<.01; b>a	NS	NS
Teaching problems and children's progress	NS	NS	NS	<.001; b>a	NS	<.04; c>a
Staff relationships	NS	NS	NS	NS	NS	<.04; c>b
Multiple roles	NS	NS	NS	<.001; b>a	NS	<.02; b>a
Extra duties	NS	NS	NS	<.02; b>a	NS	<.03; c>b
Teaching reading	<.01; b>c	<.02; a, b>c	NS	<.05; b>a	NS	NS
Teaching maths	<.001; a, b>c	<.04; b>c	NS	NS	NS	NS
Teaching science	<.001; a, b>c	NS	NS	NS	NS	NS
Teaching music	NS	NS	NS	NS	NS	NS
Parent-teacher interviews	NS	NS	NS	NS	NS	NS
Inspectors' visits	NS	NS	NS	<.001; b>a	NS	NS
Class trips	NS	NS	NS	NS	NS	NS
Family illness	NS	NS	NS	NS	NS	NS

	Grade of* School	Type of* School	Location*	Classroom* Organisation	Adequacy of* School Building	Playground* Space
Financial worries	$<.05$; $c>b$	$<.03$; $c>b$	NS	NS	NS	NS
Encroachment of job on personal time	NS	NS	NS	NS	NS	NS
Obtaining next position	NS	NS	$<.03$; $a>b$	NS	NS	NS
General Health Questionnaire mean rating	$<.03$; $b>c$	NS	NS	NS	NS	NS
Under pressure	NS	NS	NS	NS	NS	NS
Run down	$<.01$; $b>c$	NS	NS	NS	NS	NS
Loss of confidence	$<.02$; $b>c$	NS	NS	NS	NS	NS
Sleep problems	$<.03$; $b>c$	NS	NS	NS	NS	NS
Depression	NS	NS	NS	NS	NS	NS
Number of one day absences due to poor health	NS	NS	NS	NS	NS	NS
Total number of absences due to poor health	NS	NS	$<.01$; $a>b$	NS	NS	NS
Satisfaction with Teaching Questionnaire mean rating	$<.05$; $a>b$	$<.02$; $a>c$	NS	NS	$<.02$; $b>c$	$<.05$;
School administration and conditions of employment	$<.01$; $c>b$	$<.01$; $a>b$	NS	NS	$<.02$; $a,b>c$	$<.01$; $a,b>c$

	Grade of* School	Type of* School	Location*	Classroom* Organization	Adequacy of* school buildings	Playground* space
Children's attitudes and progress	NS	<.001; a, b>c	NS	NS	<.01; a, b>c	NS
Interaction with colleagues	NS	NS	NS	NS	NS	NS
Recognition by society	NS	NS	<.01; b>a	NS	NS	NS
Professional autonomy	NS	<.02;	NS	NS	NS	NS
Overall satisfaction	NS	NS	NS	NS	NS	NS

* See Appendix 7f for key to categories in each variable.

Appendix 7e. Sources of Stress, Health and Satisfaction: Pupil Intake Variables, Showing Overall Significance Levels and Significant Differences between Categories.

	Parent incomes*	Family Stress*	European children*	Maori children*	Other Polynesian* children
Overall stress rating	<.03; a>c	<.02; c>a	<.02; b>a	<.01; a>b	<.03; a>b
Stress Inventory mean rating	NS	<.04; c>a	<.03; b>a	NS	NS
Children's behaviour	<.04; c>b	<.03; c>a	<.01; b>a	<.03; a>b	<.02; a>b
Teaching problems and children's progress	NS	NS	<.04; b>a	<.05; a>b	NS
Staff relationships	NS	NS	NS	NS	NS
Multiple roles	NS	NS	NS	NS	NS
Extra duties	NS	NS	NS	NS	NS
Teaching reading	NS	<.03; c>b	NS	NS	NS
Teaching maths	NS	NS	NS	NS	NS
Teaching science	NS	<.03; c>a	<.02; b>a	NS	<.03; a>b
Teaching music	NS	NS	NS	NS	NS
Parent-teacher interviews	NS	NS	NS	NS	NS
Inspectors' visits	NS	NS	NS	NS	NS
Class trips	NS	NS	NS	NS	NS
Family illness	<.02; c>a	<.02; b>c	NS	NS	NS

	Parent incomes*	Family stress*	European children*	Maori children*	Other Polynesian* children
Financial worries	NS	NS	NS	NS	NS
Encroachment of job on personal time	<.01; c>a	NS	NS	NS	NS
Obtaining next position	NS	NS	<.03; b>a	NS	NS
General Health Questionnaire mean rating	NS	NS	NS	NS	NS
Under pressure	NS	NS	NS	NS	NS
Run down	NS	NS	NS	NS	NS
Loss of confidence	NS	NS	NS	NS	NS
Sleep problems	<.01; c>b	NS	NS	NS	NS
Depression	NS	NS	NS	NS	NS
Number of one day absences due to poor health	NS	<.01; c>a, b	<.03; b>a	<.04; a>b	<.04; a>b
Total number of absences due to poor health	NS	NS	<.03; b>a	NS	<.05; a>b
Satisfaction with Teaching Questionnaire mean rating	<.01; b>a, c	<.001; a>c	<.001; a>b	<.001; b>a	<.002; b>a
School administration and conditions of employment	NS	NS	<.01; a>b	<.05; b>a	NS

	Parent incomes*	Family Stress*	European children*	Maori children*	Other Polynesian* children
Children's attitudes and progress	<.001; c>a; b>a, c	<.001; a>b, c; b>c	<.001; a>b	<.001; b>a	<.001; b>a
Interaction with colleagues	NS	NS	<.04; a>b	NS	NS
Recognition by society	<.03; b>a	<.03; b>c	<.02; a>b	<.02; b>a	NS
Professional autonomy	<.02; a>c	NS	NS	NS	NS
Overall satisfaction	NS	NS	NS	NS	NS

* See Appendix 7f for key to categories in each variable.

Appendix 7f. Key to Appendices 7b, 7c, 7d and 7e

Table 10.2

List of Independent Variables

Nature of Variable	Source	Variable Label	Categories*	
Biographical	Background Information Questionnaire: Teachers	Age	a) Under 30	(N = 122)
			b) 30-39	(N = 73)
			c) 40-49	(N = 65)
			d) 50+	(N = 31)
Biographical	Background Information Questionnaire: Teachers	Sex	a) Male	(N = 49)
			b) Female	(N = 246)
Biographical	Background Information Questionnaire: Teachers	Marital Status	a) Single	(N = 65)
			b) Married/living together	(N = 199)
			c) Separated/divorced/widowed	(N = 27)
Professional	Background Information Questionnaire: Teachers	Teaching Experience	a) Year 1	(N = 31)
			b) Year 2-4	(N = 64)
			c) Year 5+	(N = 195)
Professional	Background Information Questionnaire: Teachers	Nature of present appointment	a) Temporary position	(N = 104)
			b) Permanent position	(N = 187)
Professional	Background Information Questionnaire: Teachers	Commitment to remain in teaching	a) Life-time career	(N = 91)
			b) Will take time out but may return	(N = 87)
			c) Will stay for next few years, but may not continue permanently	(N = 99)
Professional	Background Information Questionnaire: Principals	Teaching or walking principal	a) Teaching	(N = 28)
			b) Walking	(N = 263)
	Background Information Questionnaire: Principals	Age of Principal	a) 50+	(N = 185)
			b) Less than 50	(N = 106)

10.2 Continued

Nature of Variable	Source	Variable Label	Categories*	
Demographic/ Structural	Background Information Questionnaire: Principals	Grade of School	a) Grades 1-3	(N = 76)
			b) Grade 4	(N = 129)
			c) Grade 5	(N = 86)
Demographic/ Structural	Background Information Questionnaire: Principals	Type of School	a) Contributory	(N = 163)
			b) Full primary	(N = 86)
			c) Intermediate	(N = 42)
Demographic/ Structural	Background Information Questionnaire: Principals	Location	a) Urban	(N = 250)
			b) Rural/town	(N = 41)
Demographic/ Structural	Background Information Questionnaire: Teachers	Classroom Organisation	a) Open-plan	(N = 43)
			b) Conventional	(N = 233)
Demographic/ Structural	Background Information Questionnaire: Principals	Adequacy of school building	a) Very satisfactory	(N = 81)
			b) Adequate	(N = 164)
			c) Not satisfactory	(N = 40)
Demographic/ Structural	Background Information Questionnaire: Principals	Playground Space	a) Very satisfactory	(N = 145)
			b) Adequate	(N = 74)
			c) Not satisfactory	(N = 72)
Pupil Intake	Background Information Questionnaire: Principals	Parent Incomes	a) Average/low income	(N = 72)
			b) Above average income	(N = 76)
			c) Mixed	(N = 110)
Pupil Intake	Background Information Questionnaire: Principals	Family Stress	a) Below 12 per cent of pupils	(N = 120)
			b) 13-25 per cent of pupils	(N = 86)
			c) Over 25 per cent of pupils	(N = 85)

Table 10.2 continued

Nature of Variable	Source	Variable Label	Categories*
Pupil Intake	Background Information Questionnaire: Principals	European Children	a) Over 75 per cent of pupils (N = 171) b) 75 per cent of pupils or fewer (N = 120)
Pupil Intake	Background Information Questionnaire: Principals	Maori Children	a) Over 12 per cent of pupils (N = 147) b) 12 per cent of pupils or fewer (N = 139)
Pupil Intake	Background Information Questionnaire: Principals	Other Polynesian Children	a) Over 12 per cent of pupils (N = 109) b. 12 per cent of pupils or fewer (N = 153)

* Number refers to the number of usable replies on the overall stress rating.